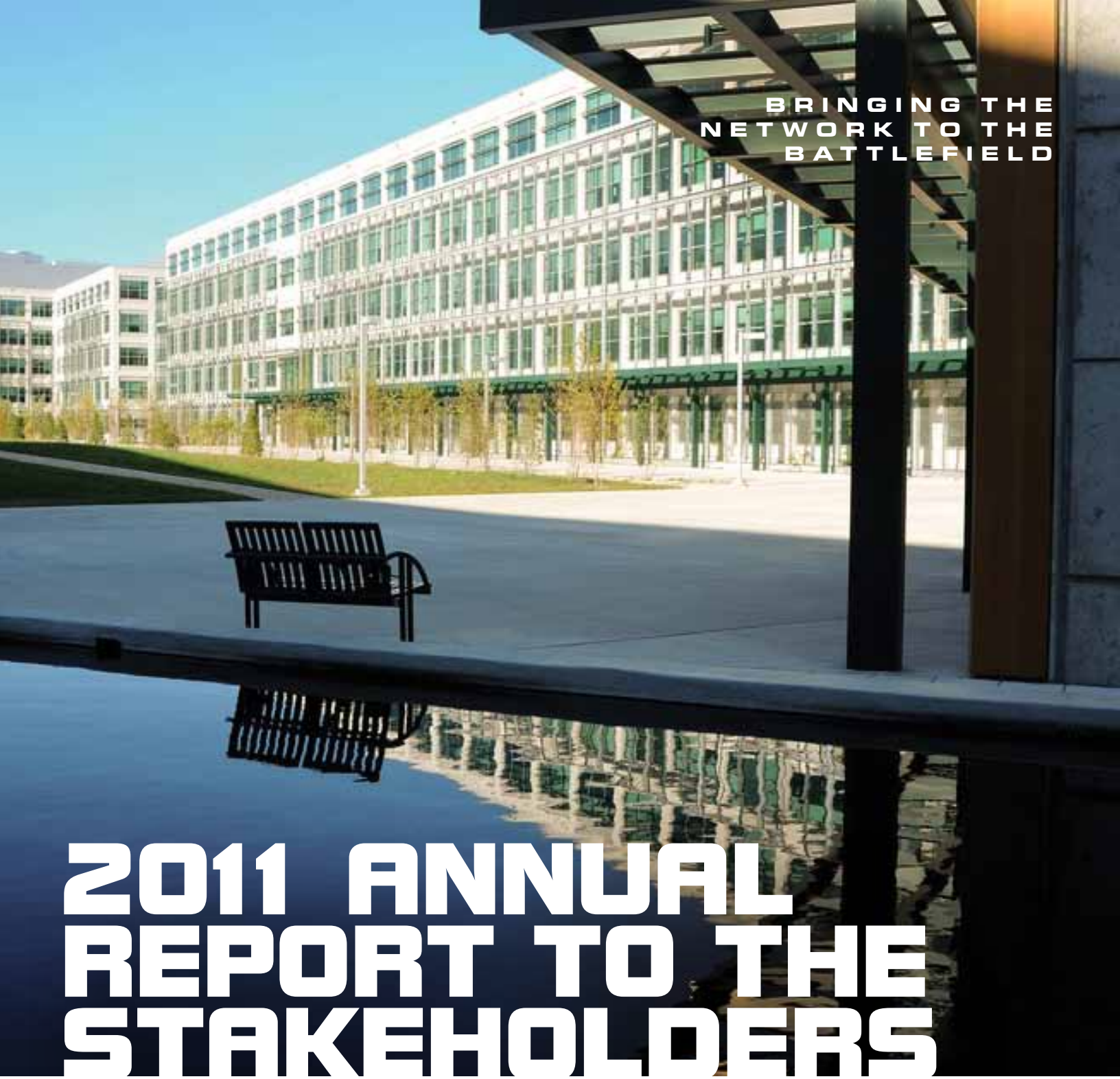


BRINGING THE NETWORK TO THE BATTLEFIELD

# 2011 ANNUAL REPORT TO THE STAKEHOLDERS

PEO C3T

PROGRAM EXECUTIVE OFFICE COMMAND CONTROL COMMUNICATIONS-TACTICAL

# PEO C3T

PROGRAM EXECUTIVE OFFICE COMMAND CONTROL COMMUNICATIONS-TACTICAL

## MISSION

*To develop, field, and support fully capable solutions to enhance mission command*

## VISION

*To remain the Army's premier team providing proven, innovative networked battle command solutions for the Soldiers of today and tomorrow.*

Front Cover: The reflecting pool outside the Myer Auditorium at the new C4ISR Center of Excellence campus at Aberdeen Proving Ground (APG), Md. Memorials previously displayed at Fort Monmouth, NJ, have been moved to this location.

Back Cover: The Johnson Gate swings shut on Fort Monmouth, which closed its doors on Sept. 15, 2011, marking the successful conclusion of the Base Realignment and Closure (BRAC) move to APG.

The annual stakeholders report is published yearly to give the public and private sector an update on PEO C3T. All information is accurate as of August 2011.

# LETTER TO THE STAKEHOLDERS

So much has changed in the past 12 months: new technologies, a new Army-wide approach to network modernization, and of course, our new home at Aberdeen Proving Ground (APG), Md.

As of Sept. 15, we successfully closed the chapter on Fort Monmouth, N.J., and completed our realignment to APG. This move provided us with a unique opportunity to re-examine how we do business and identify efficiencies. Even seemingly small process changes can translate into more dollars available to support our troops with improved equipment. With tighter budgets looming for the foreseeable future, the Program Executive Office Command, Control and Communications-Tactical (PEO C3T) is focusing on initiatives that improve a system's combat effectiveness while reducing operational and sustainment costs.

From a technology perspective, we have much to be excited about this year. We are eager to deploy the second increment of Warfighter Information Network-Tactical (WIN-T), which will revolutionize battlefield communications with a self-forming, self-healing network that provides on-the-move connectivity all the way down to the company level. WIN-T Increment 2 equipment is now at White Sands Missile Range, N.M., where users from the 2nd Brigade, 1st Armored Division (2/1 AD) will conduct the Initial Operational Test and Evaluation (IOT&E). The formal fielding, training and IOT&E will take place in April. Additional fieldings will follow in fiscal year 2013.

We will fill that moving network with information via voice, data, images and video through a set of applications called Mission Command on the Move. Inside our integration facilities at APG, we successfully loaded an initial set of these capabilities onto WIN-T computers along with Force XXI Battle Command Brigade and Below/Blue Force Tracking (FBCB2/BFT), which is the only major mission command application available on-the-move today. Allowing units to seamlessly access capabilities like Command Post of the Future (CPOF) and Tactical Ground Reporting (TIGR) as they move around the battlefield will be a huge leap forward for the Army.

Speaking of FBCB2, we are in the midst of significant upgrades that will enhance this battle-tested friendly force tracking system for a new generation of Soldiers and Marines with increased security, bandwidth and data. We have begun to field the Joint Capabilities Release (JCR) version of the software, with Joint Battle Command-Platform (JBC-P) to follow in Capability Set 13/14. JBC-P software will also be available on smartphones, empowering the dismounted Soldier with the situational awareness information previously only available inside vehicles, aircraft and command posts.

Many of the new technologies managed by PEO C3T have already reached Soldiers' hands. We have fielded the Army's first networking waveform radio, the AN/PRC 117G, in response to Operational Needs Statements from theater.

We installed the Army's first microgrid of smart generators in Bagram, Afghanistan, which will significantly reduce fuel consumption. The Afghan Mission Network, which we stood up with our partners in PEO Intelligence, Electronic Warfare & Sensors, the Army G-3 office and U.S. Central Command J-2/J-3/J-6, has transformed coalition information-sharing across the country.

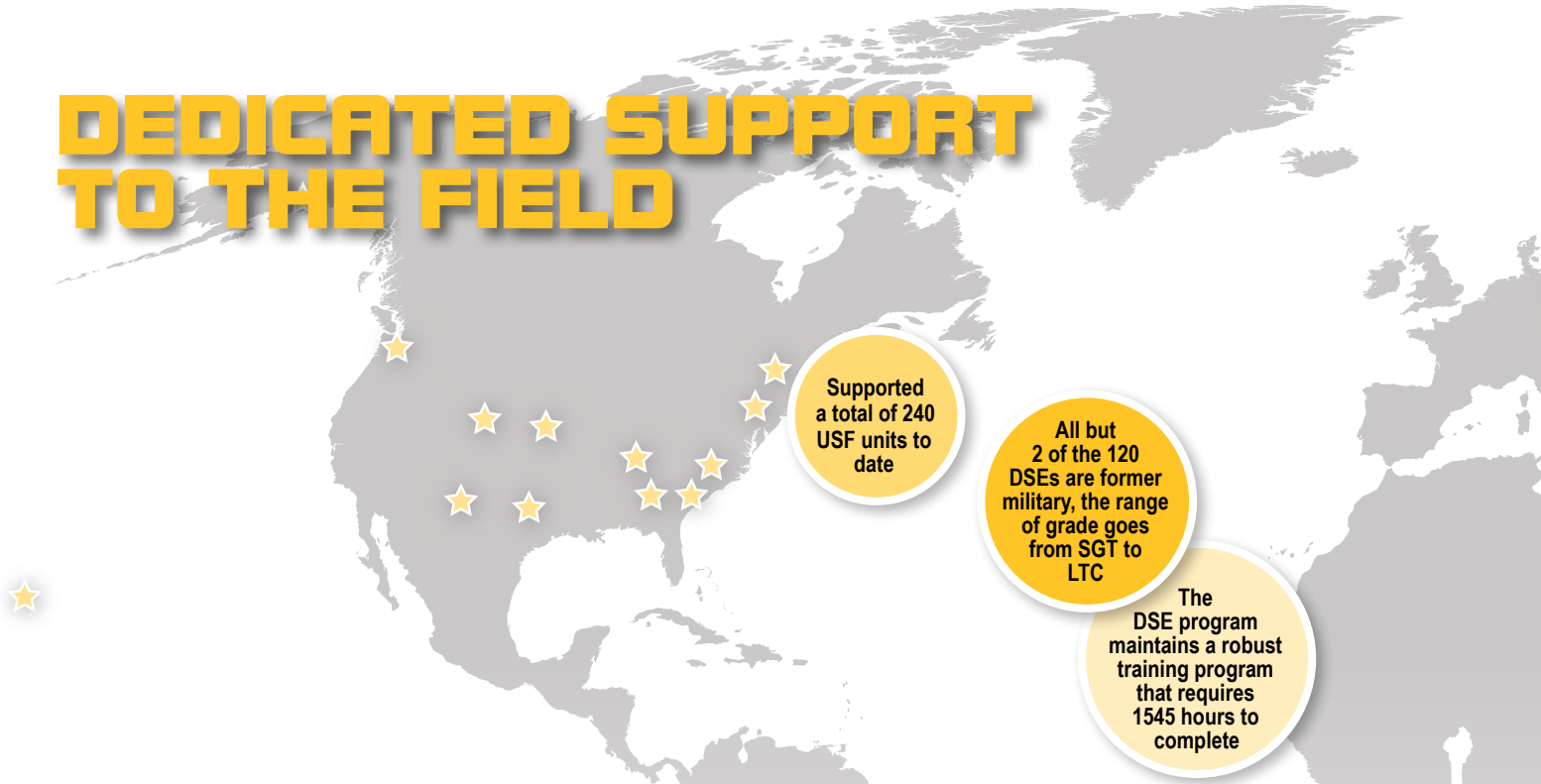
The challenges of communicating in Afghanistan's vast, mountainous terrain are replicated at White Sands, the site of the semi-annual Network Integrated Evaluation (NIE) events that began in fiscal year 2011 and will continue in fiscal year 2012. PEO C3T is the network lead organization for the NIEs, which bring together the Army's acquisition, doctrine and test communities to integrate network components in one operational venue and measure performance based on realistic missions and conditions. The NIEs are already forcing positive change to the Army acquisition process, and will significantly increase the speed with which we deliver innovative capabilities to the field.

Our new facilities at APG's C4ISR Center of Excellence are also playing a key role in the NIE process, by enabling us to test-drive integrated capabilities before they are evaluated by the 2/1 AD. The close proximity to our APG partners in the test, logistics, contracting, sensor and research and development communities is already yielding benefits for PEO C3T.

You will read about some of these efforts in the following pages, along with the other changes and challenges tackled by PEO C3T during fiscal year 2011. What hasn't and won't change is our top priority – providing deployed and deploying forces with the proven, innovative networked mission command solutions they require and deserve.

**N. Lee S. Price**
Brigadier General, USA
PEO C3T

# DEDICATED SUPPORT TO THE FIELD

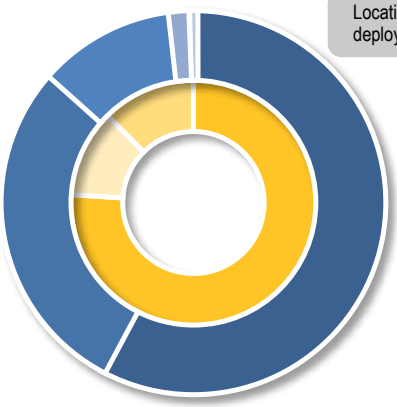



PROVIDING SUPPORT TO DEPLOYED SOLDIERS IS PEO C3T'S HIGHEST PRIORITY. At the core of that support are Digital Systems Engineers (DSEs) and Field Support Representatives (FSRs), who are battle-rostered to the Army's ground combat brigade units and are PEO C3T's representatives in those units for C4ISR systems.

The DSEs and FSRs serve as hands-on representatives who walk with a unit from the first training session on a new system, through deployment into theater, and eventual return to home station. For each system that requires field support, each unit is assigned one FSR who is an expert in that particular system. The unit is also assigned one DSE, who acts as a team captain and whose expertise spans the full spectrum of the unit's systems. The FSR feeds information up the chain through the DSE, and the DSE works hand in hand with the unit's signal officer to manage all of the information systems that support it.

DSEs and FSRs troubleshoot, mentor and provide over-the-shoulder training in both training and operational environments. They also help Soldiers settle issues that arise in training, enabling the users to more easily resolve problems that occur in theater.

## DSE/FSR LOCATIONS

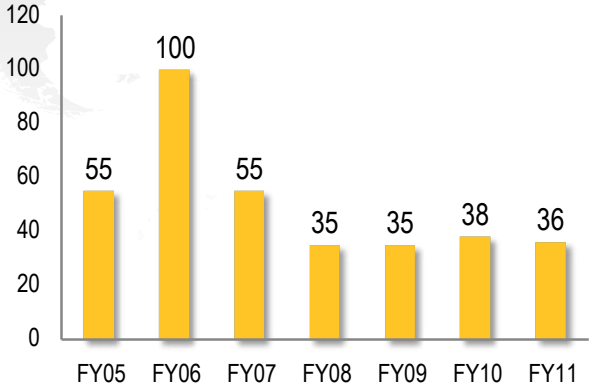


Location and how many FSR/DSE are deployed are based on the number of units

**FSRs**
- CONUS, 471
- Afghanistan, 229
- Iraq, 92
- Kuwait, 12
- Qatar, 2

**DSEs**
- CONUS, 92
- Iraq, 14
- Afghanistan, 15

## DSEs DEPLOYED PER FISCAL YEAR



# FSR SURVIVES HELICOPTER CRASH

The way Jason Mitchell sees it, a John Deere 4x4 may have saved his life.

Mitchell, a PEO C3T FSR, was on a routine helicopter ride in Afghanistan in the predawn hours of July 25, traveling with eight others to a forward operating base where he would repair a satellite system. Minutes after the Chinook left the ground, a rocket-propelled grenade blasted through the floor of the helicopter, hitting the 4x4 vehicle that happened to be in the middle of the cargo. It absorbed most of the impact and scattered the flying pieces of shrapnel to the floor.

"That was better than eye-level," Mitchell said. "That probably saved everyone's life in the helicopter."

Pieces of shrapnel lodged in his legs and feet as the crew brought the helicopter down for a crash landing. Mitchell and the others scrambled out as the 4x4 burst into flames, followed by the rest of the aircraft and the ammunition and supplies inside.

"It must've hit the fuel lines 10 to 15 seconds later," he said. "It was like a massive bonfire."

As Mitchell and the Soldiers ran to a friendly Afghan National Army base about 100 meters away, insurgents continued to attack with machine gun fire. The Americans made it to safety without any life-threatening injuries. About 30 minutes had elapsed since the grenade hit.

The five shrapnel pieces in Mitchell's feet and shin were painful and required surgery. He and the others who survived the crash were met by medics at the Afghan National Army base, then airlifted to a different base with a medical facility. Mitchell then flew back to the U.S. for further medical care. By the middle of August, he was recuperating at home after his surgery.

Mitchell began work as an FSR employed by Rockwell Collins in July of 2008, following a five-year active duty career with the Army. As a communications officer with the 82nd Airborne Division, Mitchell gained in-depth experience with the SIPR Point of Presence (SPOP). That is the system he has supported as an FSR assigned to PEO C3T's Product Manager Satellite Communications (PdM SATCOM) under the Project Manager Warfighter Information Network - Tactical (WIN-T).

Such injuries among PEO C3T field support personnel are rare. But Mitchell's close call illustrates the front-lines role played by FSRs in supporting systems critical to Soldier communications, said Lt. Col. Greg Coile, PdM SATCOM.

"They're in convoys, they're in aircraft moving around the battlefield, and they are exposed to that danger to maintain our critical satellite communication links," Coile said. "It shows the dedication and commitment of our team members, both government and industry, to serve our Nation."

When he is fully recovered, Mitchell plans to return to Afghanistan – his third deployment as an FSR, this time to train his replacement. He wants to stay on with his company and continue to support the Army. Despite the crash and injuries, he said, there are no regrets about his career path.

"No way," he said. "I have one hell of a cool story to tell for the rest of my life."

## A FEW SYSTEMS FSR/DSEs SUPPORT

AFATDS
(Fire Support)

AN/PRC 117G

AMDWS
(Air Defense)

FBCB2/BFT

SNAP Terminals

Tactical Mission
Command Systems

WIN-T

# ARMY TESTS FUTURE NETWORK DURING EXERCISE

*We knew we had to shock the system. This is a fundamental change in the way we're going to deliver network capabilities to our Army. We get a chance to evaluate the capability by putting it into the hands of our Soldiers early and often.*

***Col. John Morrison, director of the Army G-3/5/7 LandWarNet-Battle Command Directorate***

High in the mountains, infantrymen used smartphone applications to plot their movements and request help for casualties.

Driving across the desert below, field artillery Soldiers eyed a computer screen to navigate toward their next target, exchanging text messages throughout the convoy's journey.

Inside a command tent, leaders issued orders that instantly traveled through digital systems to their far-flung subordinates.

"If they find a target out there and they need us to shoot artillery on it, that's when they call us," Staff Sgt. Jamel Cobbs said. "The battalion will send down the mission, make sure we're able to arrange it and we have the ammo for it, and (the information) will go right back up the chain."

The future of the Army's tactical network was at stake this summer as Cobbs and more than 3,800 fellow Soldiers from the 2nd Brigade Combat Team, 1st Armored Division evaluated key technologies that connect units to one another and higher headquarters.

As the Army's largest network field exercise to date, the June-July Network Integration Evaluation (NIE 11.2) at White Sands Missile Range, N.M., and Fort Bliss, Texas, assessed these capabilities separately and in tandem as a "system of systems" by gathering Soldier feedback from realistic operational scenarios.

"Let's put them in the hands of people who are built to break them, and see if they get any use out of them - because if it's not a force multiplier, then we don't need it," said Clifton Basnight, a system-of-systems engineer with PEO C3T's Project Manager Warfighter Information Network-Tactical (WIN-T) who helped build the network architecture for the event. "The goal is to get operational relevance in everything we do."

A key part of the Army's network strategy, the June-July NIE was the first of four events leading up to a fully integrated Brigade Combat Team Network Evaluation at the end of 2012. It included six programs of record going though formal tests and 29 emerging or developmental technologies under informal evaluation. The equipment under formal or informal test was evaluated alongside current force equipment and programs.

The NIE 12.1, to be conducted in October and November, will build off lessons learned from NIE 11.2 in support of the Army's holistic focus to integrate network components simultaneously in one operational venue. It will continue required evaluations in support of program of record milestones, begin to establish the Objective Integrated Network Baseline, and introduce industry participation into the NIE evaluation cycle through the Agile Process methodology.

Soldier input from the NIEs will help determine what equipment is fielded to units in combat today, as well as which technologies hold the most potential for future operations. The events also allow engineers to resolve integration challenges between military and commercial equipment up front, rather than leaving Soldiers to combine technologies as they arrive in theater.

"This is huge," said Maj. Gen. Keith Walker, then-commanding general of the Brigade Modernization Command, another of the organizations involved in the events, during a media roundtable prior to the first NIE. "By replicating this network, it's going to allow us to ensure that we do that integration work prior to sending it down range."

The NIE architecture was stressed with high-bandwidth communications in diverse terrain. "We can evaluate new capabilities across the potential spectrum of conflict," Walker said. "We can evaluate them in terrain that our units are really having to deal with today, in line-of-sight and non-line-of-sight challenges."

For added realism, the Soldiers slept in tents at simulated Forward Operating Bases ringed with razor wire. Part of the brigade played the role of the enemy, launching attacks and laying improvised explosive devices on the roadside.

For Cobbs, the NIE provided his first

exposure to a new version of the Army's friendly force tracking and messaging software, known as Force XXI Battle Command Brigade and Below (FBCB2) Joint Capabilities Release (JCR). During his three deployments to Iraq and Afghanistan, Cobbs used the earlier version of FBCB2-Blue Force Tracking to navigate routes and exchange information with Soldiers in separate vehicles, sharing situational awareness of one another's locations to prevent fratricide.

"(The new version) is a lot faster - your position constantly updates as you move out," Cobbs said. "This is our way of communication. We can see our units on the map, we know where our units are at and we know where we're going."

At the brigade tactical operations center, leaders experienced situational awareness on a larger scale. Brigade Battle Capt. Phillip McCoy coordinated mission plans, system status and intelligence using Command Post of the Future (CPOF), which combines feeds from different mission command systems to provide a broad spectrum of information that commanders can use to collaborate. CPOF is fielded by PEO C3T's Project Manager Mission Command.

"You can really get a good idea of real live multiple channels of what's going on," he said.

A unit encamped near a "mountain village" tried out smartphone apps through Connecting Soldiers to Digital Applications, or CSDA, a series of ongoing evaluations to explore the potential of the devices for both home station and tactical use.

Pfc. Nicholas Johnson, a Soldier with the 2nd Brigade Combat Team, 1st Armored Division who developed a medical evacuation application and played a lead role in the CSDA effort at the first NIE, said the program collected and acted upon valuable feedback. For instance, Soldiers conducting operations requested the ability to send text messages, and because of the ease of development using a common framework, an instant messaging function was added to the phones within a week of that request, Johnson said.

**11 PEOs, 35 PMs, 3,800 Soldiers, 1,100 vehicles, 45 Systems Under Evaluation for NIE 12.1 in October-November.**

**NIEs will help determine the makeup of Capability Set 13/14, which will be fielded to 8 BCTs starting in Fiscal Year 2013.**

# INTEGRATED NETWORK EXPANDS PEO C3T'S ROLE

*In the movies, they used to show a big table and a big (paper) map – this pretty much eliminates all that.*

***Spc. Jack Ocampo, AFATDS operator inside the brigade-level TOC for the 2nd Brigade, 1st Armored Division (2/1 AD)***

As it evolves to meet the needs of the 21st-century Soldier, the Army's network is becoming exponentially more complex.

Described by senior leaders as "buy less, more often," the new "capability set" approach calls for integrating and deploying networked technologies as they reach maturity, rather than fielding on their own independent timelines. It means that programs of record and commercial off-the-shelf technologies must be able to "plug and play" in a common network environment.

That poses an unprecedented challenge for PEO C3T, which is the network lead for the Network Integrated Evaluation (NIE) events helping shape those capability sets.

"The network has grown," said Jennifer Zbozny, chief engineer for PEO C3T. "You've got a lot of different players coming in from external sources. So our role as network integrator with all of these products is new."

That role was demonstrated during the June-July NIE 11.2. After the formal program of record tests in weeks one through four of the exercise, the final two weeks featured a capstone event focusing on technical integration and ensuring different systems can seamlessly function together.

That required PEO C3T, as the network lead, and PEO Integration, which was the overall lead for the event, to combine network aspects ranging from the voice and mission command architectures to the data products and configurations that "glue" it all together, routing information to the right individuals at the right time to execute the mission.

Numerous capabilities were integrated into the overarching network for the first time, including Joint Tactical Radio System (JTRS) radios and several commercial applications, Zbozny said.

"It's a feeling out period to see what the advertised capabilities are, what they actually bring," said Chad Claussen, Network Integration Branch Chief for PEO C3T's Technical Management Division. "We either provide feedback to those groups and say, 'We need to improve X, Y, and Z,' or find workarounds for some of the issues that we found integrating those products into the network."

Joining the government and industry players with a stake in the network at a single test event means program officials must "get dirty" and make sure their systems fit into the overall system-of-systems construct, said Clifton Basnight, a system-of-systems engineer with Project Manager Warfighter Information Network-Tactical.

"It forces people away from looking at silos, because that's what we do: 'This silo works well,'" he said. "We're realizing that we have to step up. As the acquisition community, we have to be more technically savvy."

The network architecture in use at the NIE 11.2 was significantly more complex than during any previous test. It comprised about 25 terrestrial satellite systems, more than 100 vehicle-mounted networking radios that pass data as well as voice communications, an aerial tier of JTRS radios attached to Unmanned Aerial Systems, and a commercial 3G network to evaluate

smartphones.

PEO C3T laid the groundwork for a successful event by delivering comprehensive network configuration, routing and Internet protocol information; integration interfaces between various waveforms and systems; and a revamped line-of-sight architecture that could support full-motion video. PEO C3T also worked through multiple iterations of the aerial tier architecture, based upon unit considerations and preferences, and assisted the 2/1 AD with troubleshooting and over-the-shoulder training.

The November NIE12.1 will leverage the network end state from July as the baseline for additional technologies, while relying on core current and next-generation systems such as JTRS, the Warfighter Information Network-Tactical (WIN-T), and the Joint Capabilities Release (JCR) of Force XXI Battle Command Brigade and Below/Blue Force Tracking (FBCB2/BFT). It will also reduce risk for the spring 2012 NIE, which is the key event for solidifying the Army's network Capability Set 13/14.

**Data Products are a collection of mission-related data delivered to initialize mission command and other networked systems. They are manufactured by PEO C3T's Project Director Tactical Network Initialization (PD TNI) for military units: One Data Product for one unit. The key component within Data Products is the address book that enables the Soldier to send and receive digital information.**

**In addition to delivering this crucial capability to active units, PD TNI is also improving Data Products as part of PEO C3T's efforts to merge systems and networks so they operate in a system of systems environment. Currently, each project or product manager has its own address book allowing its systems to communicate. PD TNI is taking those separate address books and merging them so that all systems can talk more effectively and efficiently.**

# PEO C3T LEVERAGES, ENHANCES EMERGING TECHNOLOGIES

Smartphones. Intelligent power. Self-healing wireless networks. All are technologies important to the Army's future plans – and all have a connection to PEO C3T. The following snapshots provide a glimpse into some of the emerging technologies leveraged and enhanced by PEO C3T during Fiscal Year 2011.

**JBC-P Handhelds to participate in NIE 12.1**

**SMARTPHONES**

In March, PEO C3T partnered with the Joint Program Executive Office for the Joint Tactical Radio System (JPEO JTRS) for a "Network Excursion" at Fort Bragg, N.C. There, a cutting-edge combination of smartphones plugged into tactical radios empowered small Army units during the field exercise observed by Gen. Peter Chiarelli, the Army's vice chief of staff.

Paratroopers from the 82nd Airborne Division communicated via voice, data and images as they swarmed a mock village to capture a high-value target. Information traveled rapidly up and down the chain of command – and horizontally between team and squad leaders.

"What I watched with interest today was the ability to take pictures of high-value targets, immediately provide them to the company or to the battalion command post," Chiarelli said afterward. "I saw the ability when a Soldier is wounded to take a picture of the wound and to pass that to the doctors, so that medics can make sure that they are treating the Soldier in the appropriate way, given the wound that he has received. So there are many, many applications of this."

For the exercise, JTRS HMS Rifleman and Manpack radios were married with PEO C3T prototype handhelds, demonstrating interoperability between the "transport layer" and the "application layer."

The ruggedized, Android-based smartphones ran two apps: Joint Battle Command-Platform (JBC-P) Handheld, and Tactical Ground Reporting (TIGR) Mobile. JBC-P, which will be fielded to both the Army and the Marine Corps beginning in fiscal year 2013, is the follow-on program for Force XXI Battle Command Brigade and Below, or FBCB2. TIGR, developed by the Defense Advanced Research Projects Agency (DARPA), was scheduled to formally transfer to PM FBCB2 on October 1.

JBC-P displayed blue icons indicating the real-time GPS locations of friendly forces on the battlefield, where users could also plot enemies or landscape hazards to alert their teammates. TIGR enabled users to exchange photos, and to enter and retrieve relecant historical information.

The JBC-P Handheld is part of the Army's efforts to devise a smartphone framework and suite of applications for tactical operations. The government-owned framework ensures that regardless of who develops them, applications will be secure and interoperable with existing mission command systems so information flows seamlessly across all echelons of the force.

Allowing industry to freely develop apps within a government-led software environment means the Army can leverage fresh ideas and technology while still maintaining "disciplined" governance, said Lt. Col. Mark Daniels, product manager for JBC-P.

The JBC-P software is being designed so it can run on a variety of different smartphone platforms.

"We're trying to set this program up so that it can rapidly adapt and maintain relevance to the current warfighting generation," Daniels said.

That flexibility also extends to communications. The JBC-P Handhelds will work over different types of radio networks, including the JTRS Soldier Radio Waveform, Netted Iridium, and Marine Corps radios such as the PRC 117G and PRC 152A. Even when connected to a radio, the lightweight system weighs approximately two pounds.

The prototype JBC-P handhelds and

apps were well-received by the 82nd Airborne.

Spc. Randy Fite, who served in Iraq in 2008-09, said the system "would have been great to have" for urban combat.

"We tend to get split up, separated," Fite said. With the handhelds tracking blue forces, "I don't have to radio back to the truck to see where another squad is at and where they're moving to. I can just pull out my phone and look at it."

**INTELLIGENT POWER**

Power is the lifeblood of the networked systems fielded by PEO C3T and other Army organizations. As those systems multiply in number and capability, the demand for power follows – increasing the need for more efficient ways of generating, storing and distributing energy.

During this summer's Network Integration Evaluation (NIE 11.2) at White Sands Missile Range, N.M., Soldiers trying out new communications gear also got a look at an innovative power solution provided by PEO C3T.

Intelligent Power is a digital monitoring and control system to link and regulate multiple generators that provide power for networked mission command systems. Unlike traditional standalone generators, it can automatically control the amount of power supplied in order to meet the power demand. By providing only the necessary power, less fuel is required.

The demo involved a Trailer Mounted Support System (TMSS), which combines tents, generators and environmental control/air conditioning to support a mobile command center. Preliminary estimates from the NIE 11.2 suggest Intelligent Power could provide 13 to 20 percent fuel savings.

The two-generator setup is also reliable, which is crucial as it powers systems that connect Soldiers to their higher headquarters, said Master Sgt. Loman Evans, who used Intelligent Power at his Tactical Operations Center at White Sands. He said an outage in an operational scenario "would be a total disaster – there would be no information or feedback being transmitted to our higher or lower."

With Intelligent Power, "if there's any problem with this mechanism, it will split the power in half so it's never cut off," Evans said. "I have continuous energy every time."

The evaluation at the NIE 11.2 was assigned to Product Manager Command Post Systems & Integration, under Project Manager Warfighter Information Network-Tactical. However, it is aligned with broader efforts by PEO C3T's Project Manager Mobile Electric Power and RDECOM's Communications-Electronics Research, Development and Engineering Center (CERDEC) to develop energy storage mechanisms and intelligent controls for future generators and grids.

**WIRELESS NETWORK AFTER NEXT**

Maneuvering through thick woods, in rugged terrain or in urban confines, Soldiers risk losing radio connectivity and the ability to communicate.

The intelligent, self-healing Wireless Network After Next (WNaN) tactical network could prevent that danger by adapting to changing circumstances to keep communications intact.

**WNaN evaluated by PdM NS**

"As you move from one area to another, it automatically determines the best frequencies to utilize and the best path to utilize to maintain communications," said Mr. Terry Claussen, deputy director of the PEO C3T Special Projects Office.

During an Army evaluation at Fort Benning, Ga. in October-November 2010, Soldiers with the Training and Doctrine Command (TRADOC) Experimental Force conducted a series of operations to gauge WNaN's performance in a realistic battle environment.

Along with its ability to sense and jump to the available part of the spectrum, WNaN can also recover from signal disruptions and delays. It does so by storing information on interim network nodes until a connection can be found. WNaN could also eliminate the need for Soldiers to stop and manually adjust frequencies during operations, and could be "very valuable" at the company level because it offers more than the typical voice communications that exist for fires teams today, Claussen said.

"It also provides data, and can provide position location information to higher-level headquarters, which improves the leadership's ability to understand where their teams are at and allows them to better maneuver those teams, and also to reduce potential fratricide," Claussen said.

Prior to the Fort Benning assessment, WNaN demonstrated its potential during field evaluations conducted last summer by DARPA. The PEO C3T supported those evaluations, culminating with a demonstration at Fort Devens, Mass. that highlighted WNaN's high voice quality, frequency agility and message completion.

This year, WNaN will participate in the NIE 12.1 in October-November 2011 as a System Under Evaluation. WNaN will be integrated into the Army's tactical network with other terrestrial and celestial systems.

> ***What we were really focusing on was just the voice capability down to the team level, but in addition to that they took it to the next level (with) the data capability. For the company and below, it's very effective.***
>
> ***Maj. Nicole Vinson, communications officer for the 3rd BCT, 82nd Airborne Division, on the combination of Rifleman Radios and JBC-P Handhelds***

# ARMY FIELDS NEXT-GENERATION BFT SYSTEM

**PM FBCB2 has fielded 100,000+ ground capabilities since FY00**

The Army has fielded its next-generation friendly force tracking system to five operational brigade combat teams, equipping Soldiers with a faster satellite network, secure data encryption and advanced mapping kits for improved tactical communications while on the move.

The software-enhanced version of Force XXI Battle Command Brigade-and-Below/Blue Force Tracking (FBCB2/BFT) is known as Joint Capabilities Release (JCR) in reference to its interoperability with the Marine Corps. PEO C3T's Project Manager FBCB2 began fielding JCR to operational units in January, with more than 1,000 systems deployed through June.

Among the units receiving the technology was the 2nd Brigade Combat Team, 1st Armored Division, which evaluated JCR and a host of other capabilities during the Army's largest network field exercise to date, the six-week Network Integration Evaluation (NIE 11.2) in the challenging terrain of White Sands Missile Range, N.M.

"With the new FBCB2 we're using, it's a lot more instantaneous," said Sgt. David Johnson, a Soldier with 2/1AD who had used the previous version of the capability while deployed to Iraq. "You're able to send and receive messages no matter where (units) are -- no line of sight is required, and that's what they're running into with the mountain ranges around here."

Soldiers in combat rely on FBCB2 for situational awareness, viewing blue icons on a computer screen inside their vehicle to locate their teammates, whether when staging an attack or rescuing an injured Soldier. They can plot improvised explosive devices and enemy locations with red icons on the same computerized topographical map, alerting other friendly units nearby.

When Soldiers travel beyond a radio signal's reach, they can keep in touch by sending text messages through FBCB2's BFT satellite network. Both the speed and accuracy of that network have improved with JCR due to BFT 2, a new satellite infrastructure that can handle significantly more data than the first BFT. This capacity increase allows for more frequent and larger message traffic, and in many cases cuts the system's refresh rate from minutes to seconds -- a welcome change for users from the 2/1 AD.

"I used FBCB2 in 2006-07 in Iraq, and it worked well… (but) sometimes the messages would come in late," Spc. Daniel MacInnis said. "This is a lot faster. It's a great communications source."

JCR also enables access to the type one secret network through the KGV-72 encryption device. This allows users on-the-move to send secret data and interoperate completely with the command post. "Obviously, that helps with the mission," MacInnis said.

Soldiers conducting operations at White Sands also praised changes to the user interface, saying JCR is easier to learn and operate than its predecessor. One communications officer who was unfamiliar with the technology quickly got up to speed, Johnson said.

"I gave him an approximately half-

**JBC-P MS-C LRIP 2012**

hour class on sending and receiving FIPR (flash, immediate, priority, routine) messages, putting in SPOT reports, and putting icons on the table," Johnson said. "As long as it's day-to-day utilities you need to use, he's got no problem with it."

The JCR upgrades are part of the Army's network capability set 11/12, and PM FBCB2's Joint Battle Command-Platform (JBC-P) will replace JCR in capability set 13/14. There are more than 100,000 FBCB2/BFT units already in the field, so the JCR software upgrade will leverage pre-existing hardware and to save taxpayer dollars.

"With JCR and JBC-P, we are building upon the Army's investment in FBCB2 to enhance a battle-tested system our Soldiers want and need," said Col. Thomas Olson, Project Manager for FBCB2. "This initial fielding of JCR represents a key step toward creating a more connected and knowledgeable force and mitigating fratricide on tomorrow's battlefields."

**1,200 JCR systems in CONUS**

Soldier feedback from the JCR Limited User Test (LUT) at the NIE 11.2 is being used to influence JBC-P design and capabilities, as well as inform a JCR fielding decision for the fiscal year starting in October. The JCR software fielded to date uses a transceiver for the existing BFT network, while the LUT involved a later version of the software and the new BFT2 network transceiver.

Thus far, JCR has been fielded to units at Fort Bliss, Texas, Fort Bragg, N.C., and Fort Riley, Kan. Along with installing and troubleshooting the software and KGV-72s, personnel from PM FBCB2 also trained more than 700 Soldiers during the fielding process. The first brigades to be fielded with JCR were targeted during their reset windows, said Mary O'Leary Kasales, future operations integrator for PM FBCB2-Readiness Management Division.

In partnership with the Army Communications-Electronics Command, PM FBCB2 "has streamlined the JCR fielding efforts by converging resources in a one-touch approach to minimize impact to unit training events," O'Leary Kasales said.

At the NIE 11.2, Soldiers also evaluated JCR-Logistics, which integrates FBCB2 capability with the Movement Tracking System. MTS JCR-Log provides the technology necessary to communicate with and track tactical wheeled vehicles and other assets and cargo in near real time, enabling safe and timely completion of distribution missions in support of full-spectrum operations.

Staff Sgt. Jamel Cobbs, who used JCR at the NIE, described the new system as faster, easier to use and "a lot more accurate" than the version he used during deployments to Iraq and Afghanistan.

"By having this in the vehicle when we're moving out, all I've got to do is just bend down, look at the map, see where we're at, see if we've got any messages" from the gunnery sergeant up ahead, Cobbs said. "When we come in, all we've got to do is look (and see), 'OK, we're getting closer to that grid, we're in the right spot.'"

***It's much better than the previous version. It is not only easier to navigate, but it is a lot faster. I think it will be an excellent tool to help save lives.***

***Staff Sgt. Tony B. Sosa, a military intelligence system maintainer integrator with 2nd Brigade, 1st Armored Division***

# SITUATIONAL AWARENESS IN THE COCKPIT

A Chinook helicopter equipped with Blue Force Tracking-Aviation (BFT-AVN) is flying through a tight pass with mountains on either side. Up ahead, the current course intersects a separate pass where two sister ships are fast approaching, unannounced. The flight engineer observes the situation on the BFT monitor, warns his pilots about the converging aircraft, and provides a specific clock position to direct their scans. The pilots spot the oncoming aircraft and avoid a mid-air collision.

**Requirements for Army aircraft are approximately 6,500 systems**

The above anecdote and many others similar to it have been reported by numerous aircrews in Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF) rotations since 2002.

"Our goal is to develop and provide the most operationally relevant mission command capabilities within the aviation arena as rapidly as possible to enable Soldiers to perform their respective jobs and execute their assigned missions in the most effective manner," said Al A. Abejon, Product Director, BFT-AVN within Project Manager, Force XXI Battle Command Brigade and Below (FBCB2).

BFT-AVN is the air component of FBCB2, which automatically tracks friendly positions at the platform level and displays them as blue icons on geospatial grid or imagery maps of their respective screens. The system can also report threat locations, which are broadcast to other FBCB2 users on the battlefield and show up as red icons. Knowing the locations of both friendly force assets and enemy activity can mean the difference between life and death.

Currently installed in more than 3,800 Army, Joint and Coalition rotary and fixed-wing aircraft, Unmanned Aerial Systems (UAS), and lighter-than-air platforms, BFT- AVN provides the low-level aircraft situational awareness of an integrated air-ground common tactical picture from brigade to platform, and across platforms within the area of operations. FBCB2 provides two-way command and control messaging at multiple levels. It also enables Commanders to track critical aviation assets and to exchange key mission command information. Overall requirements for Army aircraft (rotary-wing, fixed-wing and UAS) are approximately 6,500 systems.

"This program spans the mission command spectrum from domestic, to peacekeeping and stability, to combat operations," Abejon said.

On the domestic front, BFT-AVN systems support aviation operations of the

Army National Guard and some federal organizations. For the past three years, they have played a key role aboard Guard aircraft in combating wildfires in California, and in 2009, the program was credited with saving the lives of three firefighters. The BFT-AVN systems and team have also assisted in domestic search and rescue missions, and security missions of the Secret Service and FBI during the 2008 Republican and Democratic National Conventions. The S-70 Blackhawk aircraft of the Federal Bureau of Investigation (FBI) and the Customs and Border Protection Agency are now equipped with BFT-AVN systems.

The Joint Battle Command-Platform (JBC-P) program, which is the follow-on to FBCB2, will incrementally expand and improve capabilities. The JBC-P aviation team is working closely with combat developers and other project offices to meet established aviation requirements and to leverage ongoing efforts for exchanging critical battlefield information.

The aviation team is also exploring integration with on-board Aircraft Survivability Equipment (ASE) sensors that detect aircraft engagements. The ASE can detect air defense systems that are targeting and/or engaging aircraft and provide alerts to the pilot that the aircraft is being engaged.

As the program moves forward, "we are expanding the implementation of the system to the maximum extent possible to accommodate more Joint Service and Coalition partner vehicles and aircraft as required by the operational theater," Abejon said.

# MTS REALIGNS

The PEO C3T assumed full management responsibility for the Army's Movement Tracking System (MTS) Product Office from the PEO Enterprise Information Systems (PEO EIS) effective 30 April 2011. Personnel, resources and program management oversight for MTS is now provided by the Project Manager Force XXI Battle Command Brigade and Below (FBCB2). The transfer of responsibility for MTS will be largely transparent to MTS users.

MTS is a vehicle-based tracking and messaging system that incorporates the use of positioning and commercial satellites, two-way text messaging, digital maps, encryption, a military Global Positioning System (GPS), and radio frequency identification (RFID) technologies. Using MTS, Army Combat Support and Combat Service Support units track their vehicle locations while maintaining visibility of logistics assets and critical communication links between vehicle operators and system control stations.

This transition will afford opportunities for efficiencies such as the sharing of network management and operations elements. MTS will continue to meet logistics-specific requirements and have separate funding. It will also continue to be a system in the Logistics Domain under the leadership of the Army Deputy Chief of Staff, G-4. MTS is expected to be fully deployed by the end of Fiscal Year 2013.

MTS is working closely with PM FBCB2 and the logistics community to adopt a new software version, Joint Capabilities Release – Logistics (JCR-Log), which uses a software baseline used by the maneuver forces' FBCB2/BFT and has the same functionality as MTS version 5.16.2. It is anticipated that this software will be available to the field sometime in FY 2012.

# NEW GENERATORS, IECUs BOOST FUEL EFFICIENCY


*Environmental control is one of the biggest consumers of power downrange, and if you can improve the efficiency of your environmental control units, you're going to save money on fuel.*

***Marine Corps Lt. Col. Ed Taylor, PdM Small Power Sources***

The Army will soon deploy its next generation of tactical generators to Afghanistan, a move expected to save 300,000 gallons of fuel each month.

After receiving Full Rate Production and Full Materiel Release decisions on July 20, the first 1,900 production units of Advanced Medium Mobile Power Sources (AMMPS) are expected to arrive in Afghanistan by January.

Consuming less fuel on the battlefield will require fewer supply convoys to transport fuel to remote areas. Because these convoys are a frequent target for roadside bombs and other enemy attacks, fewer tankers and fewer trips could reduce the risk faced by Soldiers transporting that fuel.

Ranging in size from 5 kilowatts (kW) to 60 kW, AMMPS are 21 percent more fuel-efficient on average than the Tactical Quiet Generators (TQGs) currently deployed to Afghanistan. They also feature size and weight reductions. During a wartime Operations Tempo, a 15 kW AMMPS generator pays for itself in fuel savings alone in nine months.

The new generators, fielded by the Project Manager for Mobile Electric Power (PM MEP), entered the production and deployment phase at a key moment for the Army's operational energy strategy. The service, which accounts for 21 percent of the Department of Defense's fuel and power consumption, is aggressively pursuing ways to reduce its energy footprint while ensuring Soldiers' power needs are met.

"The challenge we face is how to ensure access to energy that is operational, necessary, and mission critical while remaining fiscally responsible stewards of the taxpayers' dollars," said Gen. Peter Chiarelli, the Army's vice chief of staff, at the Army - Air Force Energy Forum in Arlington, Va. in July.

The AMMPS program is a highlight of these efforts, Chiarelli said, along with the implementation of microgrids that more efficiently distribute power. The service is also leveraging energy from fuel cells, wind, solar and other renewable energy sources.

One key target for energy efficiency is environmental control, another piece of the PM MEP portfolio. The traditional environmental control units used to moderate temperatures inside combat hospitals and tactical operations centers are a major consumer of fuel, leading PM MEP to develop Improved Environmental Control Units (IECUs).

In Fiscal Year 2011, PM MEP began full rate production for the 60k British Thermal Units per Hour (BTUH) IECU. The 60k IECU fleet offers a 16 percent fuel savings over comparable mil-standard units, representing an annual savings of more than 1 million gallons of fuel over the entire standardized fleet.

By mid-August, PM MEP had fielded approximately 250 of the 60k IECUs to both active component and National Guard units. The bulk of those fielded systems have gone to medical units such as the 47th Combat Support Hospital, part of the 62nd Medical Brigade out of Fort Lewis, Wash., said Marine Corps Lt. Col. Ed Taylor, Small Power Sources Product Manager for PM MEP.

"Today our Soldiers enjoy a 98 percent survival rate because of units such as this on the battlefield, which make it possible to provide emergency surgical intervention anywhere in the world," said Col. Scott Avery, commander of the 47th Combat Support Hospital. "We're really excited to get fielded the improved ECU as we complete our mission of providing health care on the battlefield. The improved reliability and efficiencies that come with this piece of equipment will help us accomplish our mission of saving lives."

In addition to supporting hospitals by ensuring medical equipment does not overheat, the IECUs are also deployed inside command posts, where they prevent overheating of the servers, radios and other communications equipment found inside. Demand for the 60k IECU has recently increased among the other services, and PM MEP is currently handing orders from the Air Force, Navy and Marine Corps, Taylor said.

# MICROGRIDS IN AFGHANISTAN FOR 'SMART' POWER

The Army, led by PEO C3T's Project Manager for Mobile Electric Power (PM MEP), has installed microgrid technologies in Afghanistan as part of a groundbreaking project that could significantly lower fossil fuel consumption on the battlefield.

The effort, which kicked off at a 2,400-man Force Provider complex in June, is the first attempt by the Department of Defense to evaluate microgrid technologies in an operational environment.

A microgrid consists of "smart" generators that link with one another to intelligently manage the power supply and operate at peak efficiency. Microgrids also enable the use of alternative energy sources and energy storage.

Reducing demand for energy on the battlefield is viewed as a key military challenge by the DoD, which released its first-ever Operational Energy Strategy in June. The strategy will increase the energy efficiency of operations; limit the risks troops face as they use, transport and store energy; and minimize the amount of defense dollars spent consuming energy.

With dozens of initiatives already underway for different operational scenarios, the microgrid project targets a "gray area" that has not yet been addressed: an expeditionary camp that quickly grows in size and power consumption.

"They kept adding module after module, and they ended up with 96 separate generator sets," said Chris Bolton, lead engineer for PM MEP and one of the architects of the project. "The intent was to take a lot of the commercially available technology and state-of-the-art microgrid systems and apply it to that situation."

A 1-megawatt (MW) microgrid replaced more than a dozen of the complex's generator sets with just four larger sets, simplifying maintenance as well as cutting fuel consumption, Bolton said. Another 180-kilowatt (kW) microgrid configuration being installed will not replace any of the remaining 74 generators, but will allow up to four of them to communicate and turn on and off in response to demand.

A key benefit of the smaller system -- which is part of the Army's Hybrid Intelligent Power (HI Power) research and development program -- is modularity and scalability to different quantities of generators as a camp expands.

To prove its readiness for a harsh Afghan summer, the 1 MW microgrid went through seven training rotations at the National Training Center at Fort Irwin, Calif. in recent months. For more than 2,500 hours, it functioned reliably in environments ranging from 35 degrees to 117 degrees Fahrenheit, enduring thick dust and severe windstorms.

"The Afghan Microgrid Project is a key step toward reducing fossil fuel consumption in Afghanistan and for future operations," said Brig. Gen. N. Lee S. Price, PEO for C3T.

> ***We're also planning additional work in areas such as more efficient generators and power distribution. In fact, the Army has been working on the development of necessary hardware, software and controls to perform field-scale, microgrid implementation for some time now.***
>
> ***Gen. Peter Chiarelli, Army vice chief of staff***

# PEO C3T DELIVERS CAPABILITIES THROUGH ONS

With constant changes in both information technology and enemy tactics, the Army cannot always anticipate exactly which tools will be crucial to Soldiers in the fight.

But when new needs arise, units have a safety valve: submitting an Operational Needs Statement. Known as an ONS, such a request documents the urgent need for a materiel solution that will correct a mission deficiency. An ONS can ask for an emerging technology, increased density of a critical system, or another type of solution.

**44 ONS have been assigned to the PEO C3T since January**

At PEO C3T, the organization is affected by approximately five ONS or Joint Urgent Operational Needs Statements (JUONS) each week. After receiving the validated ONS through Headquarters, Department of the Army, PEO C3T acts immediately, coordinating across its Project Managers to synchronize its response to units in need. Recent ONS addressed by PEO C3T have sparked the delivery of critical capabilities to theater, including the Army's first networking waveform radio; increased network bandwidth and range to the tactical edge in austere terrain; and a mission command equipment package providing situational awareness for commanders while on-the-move.

"From Afghanistan to Africa to Korea, our deployed units know best what capabilities will facilitate mission success in their specific area of responsibility," said Brig. Gen. N. Lee S. Price, PEO for C3T. "The expertise and innovation of PEO C3T's project and product managers and engineers allows us to respond to incoming ONS and JUONS with solutions that make an immediate impact in the field."

**AN/PRC-117G RADIOS:** Since July 2010, Project Manager Force XXI Battle Command Brigade-and-Below (PM FBCB2) and Product Manager Network Systems (PdM NS) have fielded the AN/PRC-117G, a wireless multimedia radio allowing troops to exchange large chunks of tactical data, such as video and biometrics. The team has fielded more than 2,000 AN/PRC-117G radios to Afghanistan in response to multiple ONS, which document where the 117G's capabilities fill current gaps.

Soldiers also receive over-the-shoulder training in their vehicles when the PEO C3T team travels to forward operating bases to install the radios.

"It's got some new capabilities that Soldiers are unaware of, or not quite sure how to leverage to better use the radio," said Zaphir Shamma, who leads the 117G training in Afghanistan's Regional Command South. "It's our job to educate them on the new bells and whistles."

The AN/PRC-117G is serving as an interim networking radio, providing a bridge to next-generation Joint Tactical Radio System (JTRS) radios, said A.J. Parlow, product director for Tactical Radio Communications Systems under PdM Network Systems.

"Generally the feedback has been very positive – that these radios are filling a niche they haven't had before, and making their missions easier," Parlow said. "This radio is doing its job and it's adding to the capability of the Soldier."

For voice communications, the 117G is compatible with the Advanced System Improvement Program (ASIP) radio, which is the current edition of the broadly fielded Single Channel Ground and Airborne Radio System (SINCGARS), family of radios. SINCGARS forms the network backbone for fire support, enabling data exchange by units such as field artillery, who need to push digital firing information in order to accurately engage their targets.

Using the ANW2 waveform, the PRC-117G radio is also helping units expand classified Secret Internet Protocol Router, or SIPR, networks that were previously restricted to fixed sites, said Johnny Boker, a contractor for PD TRCS.

"The radios have been used to extend radio networks in Kandahar as well as Camp Phoenix, Afghanistan," Boker said.

Other recent ONS answered by PEO C3T include:

**C5ISR:** With its partners in the Research, Development and Engineering Command (RDECOM) and Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S), PEO C3T is also responding to a Coalition Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C5ISR) ONS to thicken and extend the network to the tactical edge.

**32 ONS have been completed by PEO C3T since January**

**MOBILE CCP:** In October 2010, United States Army Africa (USARAF) determined that the current Army standard Contingency Command Post (CCP) is too large and is not rapidly deployable without significant amounts of strategic lift. The command submitted an ONS for a flexible command post that could respond to deployment requests anywhere in Africa.

In response, Army organizations including PEO C3T delivered a low profile, mobile Contingency Command Post (CCP), comprised of equipment such as a SIPR/NIPR Access Point (SNAP) terminal, Light Medium Tactical vehicle (LMTV), Trailer Mounted Support System (TMSS) and associated network, video and radio systems.

**MCOTOM**: Mission Command On-The-Move (MCOTM) – a mission command equipment package – is integrated into Bradley, Stryker and Mine Resistant Ambush Protected (MRAP) platforms. It is designed to support mobile mission command requirements for brigade, division and corps levels, but more recently it has been pushed down to the battalion level.

In support of theater-generated ONS, PM WIN-T has provided MCOTM capabilities to Afghanistan and Iraq.

***The Soldier on-the-move is getting more accurate information. He is not relying on someone to translate a map or the common operating picture just using a radio; he can see exactly what his chief of staff can see back at the Tactical Operations Center. That is invaluable.***

***Lt. Col. Carl J. Hollister, PdM for CPS&I***

# PM WIN-T PARTNERS WITH NATIONAL GUARD

To increase the depth and breadth of communications across the battlefield, an Alabama National Guard signal battalion will deploy equipped with Warfighter Information Network-Tactical (WIN-T) -- the backbone of the Army's communications network.

**The National Guard of the United States was established in 1903**

"The whole job of the signal piece is to lift what we call 'the fog of war,' meaning that if you can get communications from point A to point B more quickly, you have a better chance of completing your mission," said Cpt. Hampton McNeil, the Army National Guard's assistant product manager for WIN-T Increment 1. "Fielding WIN-T means that we are just that much faster, just that much in front of our enemy. It saves lives."

In preparation for deployment, the Alabama National Guard's 115th Expeditionary Signal Battalion trained on its own WIN-T Increment 1 equipment at the North Alabama Fairgrounds in Muscle Shoals, Ala. from April 9-15. While the unit previously trained on the new equipment at the platoon and company level, this was the first time since its fielding of WIN-T that the entire battalion was able to train together in one place.

Similar to a home Internet connection, WIN-T Increment 1 establishes a network backbone that provides the full range of data, voice and video communications at battalion level and above. It uses satellite communications nodes that can be coupled with High-Capacity Line-of-Sight radio communications to successfully meet the requirements needed in theater. To communicate, Soldiers simply pull over on the side of the road without wasting valuable time setting up complicated infrastructure. WIN-T Increment 1 is currently fielded to 80 percent of the total force.

**Army National Guard is authorized a strength of 350,000**

"From a National Guard standpoint, for our Soldiers to be receiving this state-of-the-art equipment, the exact same equipment that the active duty Soldiers are receiving, at the exact same time, does a lot for their morale," McNeil said.

PM WIN-T also teamed up with the West Virginia National Guard and the state of Maine to upgrade key communications equipment. Leveraging the strengths of U.S. services and state-owned capabilities, these mutually beneficial partnerships highlight the efficiency of a united force.

"These partnerships are a physical substantiation of 'one team, one fight," said Col. William Hoppe, then Project Manager for WIN-T. "It doesn't matter if you are Active, Guard or Reserve; at the end of the day whether you are in Iraq, Afghanistan or the Horn of Africa, you have to be able to fight together with the same kit. And these efforts are another example of how we have pulled that together."

# TEST BRINGS INCREMENT 2 CLOSER TO THE BATTLEFIELD

The second increment of Warfighter Information Network-Tactical (WIN-T) recently wrapped up its major developmental test, marking another key step in the Army's plans to establish a mobile communications grid for the battlefield.

"Army senior leadership has recognized that the cornerstone of modernization is the network, and WIN-T Increment 2 delivers that high capacity network on-the-move," said Lt. Col. Robert Collins, product manager for WIN-T Increment 2. "Its fielding will be a significant milestone as we deliver the next-generation network that will transform how the Army operates and conducts its operational missions, both at-the-halt and now on-the-move, all the way down to the company level. It's a major step."

The WIN-T Increment 2 Production Qualification Test-Government, or PQT-G, was the major developmental test leading to the upcoming operational test andfielding, which is expected in fiscal year 2013. The PQT-G, concluded on Aug. 5, was the largest instrumented test ever held at the Aberdeen Test Center, with WIN-T Increment 2 hardware and software installed in tactical vehicles spread out over five geographically dispersed sites. During the six-week event, hundreds of personnel collected thousands of gigabytes of data on the network's performance – including how fast messages travel, how reliably they arrive at their destination, throughput assessments and whether the network is successfully prioritizing urgent messages like Medevac requests ahead of routine traffic.

The spring 2012 WIN-T Increment 2 Initial Operational Test and Evaluation (IOT&E) will be conducted at White Sands Missile Range, N.M., with the 2nd Brigade, 1st Armored Division (2/1 AD), as part of the Network Integrated Evaluation (NIE) 12.2. The PQT-G was based on an operational mission set that is fundamentally built around the unit structure of 2/1 AD.

While the PQT-G focused on technical functionality, the upcoming operational test will focus on how the network benefits the overall execution of the Soldier's mission. The IOT&E will demonstrate whether or not the network speeds decision cycles, enables increased operations tempo and increases speed of maneuver. The two tests complement one another, but they have two different purposes, Collins said.

To prepare for the IOT&E, PM WIN-T delivered Increment 2 assets to 2/1 AD in August and September to provide hands-on exposure and early insights. WIN-T Increment 2 will be informally evaluated at the NIE 12.1 in October-November.

WIN-T Increment 2 will deliver on-the-move network communications – including high-speed, high-capacity voice, data and video – down to the company level. It also adds the ability to adapt to changing mission conditions in real time. By taking advantage of both terrestrial and satellite communications, units in austere environments such as mountainous regions can still connect and communicate through this self-forming, self-healing network. Should a component of the network become inoperable, it will restructure itself and continue providing the seamless communication needed to complete dynamic operational missions.

"As the Army modernizes current software capabilities and integrates its stand-alone technologies into a system of systems, WIN-T Increment 2 will provide the necessary network capabilities to enhance Army Modernization," Collins said. "These pre-fielding tests provide the stage to make certain that it is well integrated and ready for the Soldier."

> ***Our successes and accomplishments will be documented on paper and in reports, but the real sense of accomplishment comes in knowing we have provided the U.S. Soldier a capability that will help protect him from harm's way.***
>
> ***Andrew J. Pahutski, PdM WIN-T Increment 2 chief of test***

# PM MISSION COMMAND ADVANCES COLLAPSE STRATEGY

*A picture says a thousand words. It's even better if that picture is common across the battlefield.*

***Cpt. John Landry, assistant brigade fire support officer, 2nd Brigade, First Armored Division***

The Army recently changed its doctrine from "Battle Command" to "Mission Command," which renders Mission Command as a warfighting function. Mission Command integrates the art and science of command by building a trust relationship among leaders, empowering them by decentralizing capabilities, and holding them accountable to create a shared understanding of the operational environment from the bottom up as well as the top down. It places the emphasis on the Commander instead of the systems, and takes into consideration his or her team building efforts with joint partners across agencies, governments, and countries. Mission Command empowers our most important asset – the Soldier.

After changing its name from Project Manager Battle Command in July 2011 to Project Manager Mission Command (PM MC), continues its quest to "collapse," or converge, its maneuver, fires, sustainment, air defense and airspace management applications into a common workstation. The driving force behind this effort is to improve overall data sharing. PM MC found that although each individual system performed well in the field, provided needed critical capabilities, and shared select data with other systems, staff officers remained largely isolated due to the systems with which they operated. In order to achieve interoperability and collaboration, Soldiers had to manually extract data from one system and physically re-enter this data into another system.

"The era of stovepiped functional systems is over, and has been for some time" said Lt. Col. Thomas Bentzel, PdM Tactical Mission Command. "Mission Command Collapse will be a catalyst for deep collaboration—not just within functional areas, but across them."

The first primary tier of the Mission Command Collapse Strategy has been to consolidate server infrastructure. PM MC then developed two core elements of the application framework: the Command Workstation and the Command Web. The foundation for the Command Workstation is the Command Post of the Future (CPOF), selected because it provides users with the capability to simultaneously collaborate and share data among operators in near real-time. For instance, it allows senior commanders to quickly review shared data with subordinate units, thus improving overall battlefield awareness. PM MC recently fielded and trained the initial Command Workstation capability as a System Under Evaluation, at the Network Integration Evaluation 11.2, with favorable results.

Command Web is a significant advancement in the Collapse Strategy. Through Command Web, users will be able to access the operational capabilities of the PM MC systems through a web solution, with the goal of providing users with enhanced collaboration, visualization, and analysis and planning using a thin-client, Web-enabled environment. Command web is expected to simplify logistics, enhance efficiency for the Army, and increase the maneuver commander and staffs' ability to collaborate across a broad range of operations for users with network access and a browser. It is a government-owned, open-source framework, which consists of a third party software development kit that allows for a collective, integrated, single environment from development to deployment.

"Command Web can be a window into CPOF for those who don't have the real deal," Lt. Col. Bentzel said. "It can't replicate CPOF's depth or power, but it's the next best thing. And it's got great potential for expansion and convergence with other systems."

PM MC's successes are the result of agile software development processes, which address the need for speed and flexibility against an agile and unpredictable enemy. For instance, "scrum sessions" bring together users and developers, and eliminate the delay that can often occur with middleman impediments. To ensure the latest capabilities deploy in a timely manner, PM MC has implemented a quarterly release process, as opposed to a more infrequent release schedule. Robust testing processes have ensured that the releases are deployed without affecting interoperability with other systems, and thus, have set a new standard for software releases by the Army.

PM MC's approach to consolidating capabilities from multiple stovepiped systems onto a single server is expected to enhance collaboration by every measure.

## CHS

Common Hardware Systems (CHS) is a unique technical Army procurement program under Project Manager Mission Command (PM MC) that has provided state-of-the-art, fully qualified, interoperable, compatible, deployable and survivable computer and networking hardware for numerous weapon systems since 1987.

"CHS provides full logistics support through Regional Support Centers (RSCs) distributed throughout the world. These RSCs are the single face to the Soldier and Marine, and provide a valuable ease-of-use service," said Dr. Ashok Jain, Product Director CHS.

CHS support includes worldwide repair with a 72-hour Turn Around Time (TAT), maintenance, and five-year warranty on all equipment. CHS also conducts a technology insertion program which identifies opportunities for infusing new technology into CHS products and provides alternatives to equipment that is approaching End-of-Life .

To ensures Soldiers and Marines in any climate, terrain, or battle situation have reliable hardware, CHS procures and maintains four versions of its hardware: V1 – non-ruggedized, V1+ – some ruggedization, V2 – ruggedized and V3 – near military specification.

"The more than 600,000 pieces of equipment currently fielded to the Soldiers are making a real difference in the fight," Jain said.

The CHS program ensure fiscal efficiency for the Army's hardware purchases. The 72-hour warranty repair or replacement time results in more than a 97% operational availability. With the five-year warranty in effect, fewer spare items are required. Additional continuous cost savings are achieved through aggregation of customer orders, quantity discounts provided by range pricing, reduced warranty costs, and special pricing for large buys.

CHS has achieved longevity in the Acquisition arena by providing easy ordering, on-time delivery, comprehensive warranties, and convenient and responsive customer service. With CHS, Soldiers and Marines can be certain that they will seldom be without the modern computer and networking hardware they require to safely and successfully support their missions.

In August, the Army Contracting Command - Aberdeen Proving Ground awarded the CHS-4 contract to General Dynamics C4 Systems Taunton, Mass. The $3.7 billion, five-year indefinite delivery, indefinite quantity contract is for procurement of tactical information technology hardware and services using firm fixed price and cost plus fixed fee for services on non-commercial items.

# THE COMSEC PROCESS STREAMLINED

*By consolidating and establishing PD COMSEC, those program offices have a place to go with acquisition professionals that understand the business they are working in and understand that what you need in a program office are choices.*

*Chris Manning, PD COMSEC*

Project Director Communications Security (PD COMSEC) is partnering with platform and system integrators across the Army to more efficiently secure networked mission command solutions whose future enhancements will require greater protection.

PD COMSEC procures, sustains and fields capabilities that secure and encrypt data on the Army's tactical network. It is also a central point for the Army's system integrators who seek COMSEC expertise as they integrate network and software capabilities.

"We can really bring to the table a focus and an in-depth knowledge base as programs try to integrate COMSEC into their systems," said Chris Manning, project director for COMSEC.

PD COMSEC will synchronize system integrators from separate project management offices through semi-annual COMSEC Integration Integrated Process Team (IPT) forums. Industry will also use the forums to present the future objectives in their roadmaps.

Government representatives will pose issues to multiple corporations that will offer potential solutions. Representatives from separate government entities and industry will converge, examine the pros and cons of various solutions and determine which approach might be best suited for their respective needs, Manning said. Previously, individual approaches to these solutions may have prevented the COMSEC community from efficiently reaching its overall objectives, he said.

**PD COMSEC was chartered to the PEO C3T in September 2010**

At the forums, PD COMSEC will also articulate innovative, cost-effective communications security approaches to Army platform integrators. The integrators will determine the most effective ways to build COMSEC features into their future capabilities.

**PD COMSEC manages over 380 separate cryptographic and ancillary models fielded**

PD COMSEC has collaborated with the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT)) Systems of Systems Engineering Office to institute the most effective communications security and key management approaches and analysis across programs of record.

For example, many systems engineers deem Type 1 encryption necessary on capabilities that require less than the top secret protection it can provide, Manning said. Excess expenses are incurred when programs procure greater COMSEC protection than the operational level they need. PD COMSEC guides these individuals to alternatives to Type 1, when lesser security levels are appropriate.

"By consolidating and establishing PD COMSEC, those program offices have a place to go with acquisition professionals that understand the business they are working in and understand that what you need in a program office are choices," Manning said.

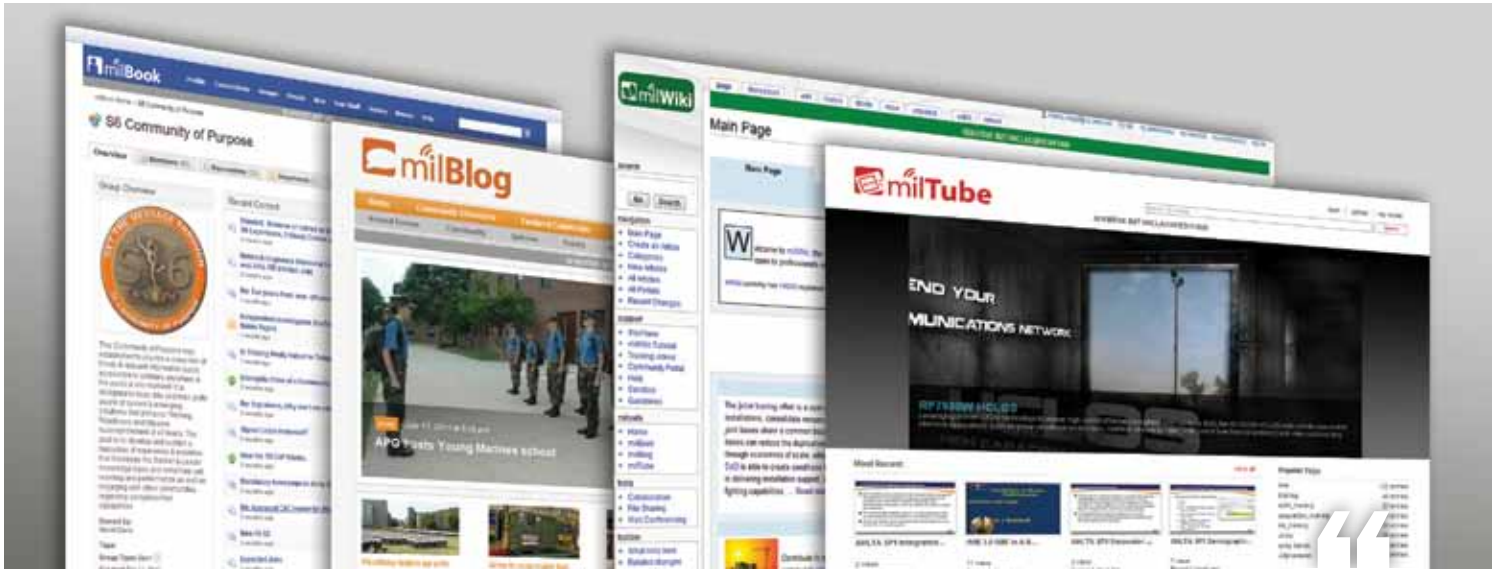
Aside from the cost efficiencies yielded by its efforts, PD COMSEC is also bringing efficiency to the field. To lessen the logistics burden on Soldiers, PD COMSEC is leading the Army effort, in conjunction with the National Security Agency (NSA), to deploy Over The Network Keying (OTNK) capability to the Army to reduce the need to receive COMSEC key from a physical workstation. The goal is to leverage the Key Management Infrastructure (KMI) based solution in the next iteration of the Simple Key Loader (SKL). SKL is used to load cryptographic keys to encryption devices used to make data indiscernible to the enemy.

With this solution, the user will connect to the Secure Internet Protocol Router (SIPR) network from any location, register his or her brigade's devices and use the SKL to download key for each of their systems. This will eliminate the burden of carrying transit cases that contain large key distribution systems or searching for a COMSEC custodian.

The solution will be usable with many of the 1.5 million end cryptographic units that are currently fielded, but some legacy systems will be replaced to support this application.

"The user will be able to update key from garrison, all the way to the tactical edge," Manning said.

# MILSUITE EXPANDS FOR THE DOD ENTERPRISE




The Defense Department's secure collaborative platform, founded by PEO C3T, has expanded beyond the Army to include more members of the Navy, Marine Corps, Air Force and Coast Guard, providing behind-the-firewall access to a collection of secure knowledge management tools mirroring popular social media platforms.

DOD common access card holders can access the milSuite enterprise edition release at https://www.milsuite.mil.

The milSuite community consists of more than 165,000 individuals from the active services and DoD's civilian and contractor work forces dedicated to a more connected military. The launch of the enterprise edition in February has broadened the user base and facilitated joint knowledge sharing.

"People across the Department of Defense are collaborating on programs and efforts in ways that were impossible prior to milSuite's secure, professional networking capabilities," said Brig. Gen. N. Lee S. Price, PEO for C3T. "milSuite provides a valuable opportunity to synchronize efforts across separate services, so we can work as one."

The secure capabilities include milWiki, a living military encyclopedia editable by subject matter experts; milBook, a professional networking tool providing communities of practice; milBlog, a place to share and comment on internal news and events; and milTube, a video-sharing capability for the military work force. The technology is similar to what users are familiar with at home: wikis, blogs, social networking sites such as Facebook, and media-sharing sites such as YouTube and Flickr.

U.S. Army Training and Doctrine Command has used milWiki to promote online collaboration of Army field manuals, allowing the knowledge and experiences of Soldiers conducting operations to be rapidly incorporated into doctrine.

Users have leveraged milBook to share lessons learned and best practices on enterprise-wide technologies and to bring hundreds of people into communities of practice centered on chaplaincy, medicine, tactical communications and more.

Maj. Jerome Scott Loring, who leads a milBook group for people who provide educational services to the Army National Guard, said the forum has connected officers across the 54 U.S. states and territories supported by the National Guard Bureau on topics such as the Post-9/11 GI Bill.

"We can post an issue, (and) people can comment, discuss (or) raise issues in a secure environment," Loring said. "You can reach everyone in a way that doesn't clog up e-mail in-boxes."

milSuite builds on the Web 2.0 model of community content and participation to streamline business processes while tapping a broader knowledge base. The tools are integrated with one another through a common user profile and linked by a Google search appliance so users can locate the specific resources they need.

With network firewall protection, users from all branches and organizations can share official unclassified internal information and engage in dialogue.

milSuite is assigned to the Military Technical Solutions Office (MilTech Solutions), a government organization of PEO C3T.

"This is a significant development for the way we communicate across the Department of Defense," said Emerson Keslar, director of MilTech Solutions and one of the architects of the milSuite project. "At a time when we are all focused on efficiencies, milSuite is one way we can overcome the geographic and organizational divisions of the military community to share information instantly."

**MilTech Solutions has won an Army Knowledge Management Award for three years in a row**

***milSuite offered the opportunity for me to keep all the Soldiers in the unit informed and connected. I can post and discuss sensitive information that would spill on a traditional social media format. If my Soldiers can use Facebook, using milBook is a simple transition.***

***LTC Jacob Johnson, Commander, 358th Medical Detachment***

# COALITION NETWORK UNITES FORCE

*In Regional Command (RC) South, the Canadian, British, Australian and U.S. Forces are sharing data at an impressive rate. Today, a foreign Commander in RC North is communicating on the same enclave as his subordinates from separate nations.*

***Brig. Gen. N. Lee S. Price, PEO for C3T***

Not only does the Afghan Mission Network (AMN) enable the Coalition to share critical battlefield information among its 45 partners, it also allows the Afghan government and military to utilize some of that information to help bring peace to the region.

Using the North Atlantic Treaty Organization (NATO) International Security Assistance Force (ISAF) Secret Network as the backbone, AMN marries network extensions from each participating nation. From their respective secure networks, and at their individual discretion, separate Coalition forces can now share data, situational awareness and Commander's intent across the battlefield on a centralized network. AMN enables the 45 nations of the Coalition to unite and fight the enemy as a single force, leveraging the combined strength of each partner.

"The British in the north need to be able to share information with the Afghan National Army down in Kabul or down in Kandahar," said Sgt. Maj. Anthony B. Miller, G6 Sergeant Major, U.S. Army Africa, a recent AMN user in Afghanistan. "The Allied Mission Network is a combat enabler that gives us an advantage over the enemy."

The Combined Enterprise Regional Information Exchange System (CENTRIXS)-ISAF (CX-I) secure network is the U.S. component of AMN. Nearly 85 percent of the data in Kabul, Afghanistan available for U.S. forces on U.S. Secure Internet Protocol Router Network (SIPRnet) is now available on CX-I.

Because the U.S. controls its own portion of the network, it also controls the information it wishes to disseminate, so it can decide what data to "push down and share with its partners," Miller said. The Afghan National Army furnishes the infrastructure to enable the U.S. and other Coalition forces to provide them with relevant, though selective, data and situational awareness, which does not compromise the security of any partner including the U.S. The Afghan National Army can then respond, making crucial decisions based on current and comprehensive data.

PEO C3T continues to field and support CX-I for troops deploying into theater. United States Forces-Afghanistan (USFOR-A) funded PEO C3T and PEO Intelligence, Electronic Warfare and Sensors (IEW&S) to provide equipment to units already in the Combined Joint Operational Area - Afghanistan. Each force package unit is either fielded or on a fielding schedule for all AMN equipment.

"On the battlefields of Afghanistan, AMN has transformed the way Coalition Commanders share information," said Brig. Gen. N. Lee S. Price, PEO for C3T. "Independent discussions and planning efforts between separate Commanders of different nations have been replaced by data sharing across AMN."

In 2010 PEO C3T, together with PEO IEW&S and U.S. Central Command J2/J3/J6, migrated all appropriate mission-critical U.S. Command and Control and Intelligence, Surveillance, Reconnaissance systems from the SIPRnet to CX-I. For their efforts in standing up CX-I, PEOs C3T and IEW&S received the 2010 David Packard Award for Acquisition Excellence.

# TACTICAL RADIOS' NEW HOME IS PdM NETWORK SYSTEMS

The goal of PdM NS is to provide leadership for PEO C3T for the current force, commercial-off-the-shelf (COTS), and future force transport systems for the tactical Army's battalion and below network. Its goal is to provide Soldiers with the ability to communicate via voice and data seamlessly both vertically from foxhole to their supporting battalion headquarters, and horizontally to their adjacent fighting units. It does this with an assortment of handheld and vehicle-mounted radio systems using both terrestrial and satellite communication paths. Moving tactical radios under PdM NS will provide better synergy between networking capabilities and transport systems for the battalion and below communications network.

**SINCGARS equipped 1st Division December 1990**

These tactical radio systems consist of mainstream current force terrestrial-based radios such as Single Channel Ground and Airborne Radio System and Enhanced Position Location Reporting System, as well as satellite systems like Combat Survivor Evader Locator along with emerging COTS radios like the AN-PRC-117G with its Advanced Networking Wideband Waveform (ANW2). PdM NS will take the lead to bridge these systems into a seamless network and will support their evaluation at the upcoming Network Integrated Evaluation events.

**EPLRS was first fielded by the U.S. Army in 1987**

**Combat Survivor Evader Locator (CSEL):** 27,655 fielded

**Enhanced Position Location Reporting System (EPLRS):** 15,737 fielded

**Single Channel Ground and Airborne Radio System (SINCGARS):** 581,009 fielded

# NEW CAMPUS TO SERVE AS INTEGRATION 'MECCA'

FORT MONMOUTH


The U.S. Army Signal Corps time capsule was buried on Sept. 16, 1960 at Russel Hall, Fort Monmouth, and was removed on June 21, 2010. The time capsule was reburied at the Army Signal Center and School at Fort Gordon, Ga., where it will be opened on June 21, 2060.

**Over 5,000 federal civilians and military BRAC'd to Aberdeen**

When a Soldier uses a radio, situational awareness application or other networked piece of hardware or software, he relies not just on that device, but on the entire tactical network supporting it.

That need for an integrated, interoperable system-of-systems is driving the Army's new development, test and evaluation strategy for the current and future network. Integration work starts long before a capability reaches a Soldier's hands – in facilities at Aberdeen Proving Ground, Md. The Army Team C4ISR Center of Excellence includes a new integration facility where PEO C3T can meet its mission of delivering integrated network capabilities to the battlefield.

There, engineers delve into the intricacies of waveforms, interfaces, architectures and data products – connecting the dots up front so troops don't have to later. The facility is allowing PEO C3T to integrate commercial off the shelf (COTS) and government off the shelf (GOTS) technologies across its own Project Managers, as well as from industry and other Army and Joint organizations. Network components are tested as part of an integrated network, not as stand-alone devices.

**113,744 lbs. of material were shredded at Ft. Monmouth by PEO C3T**

During Fiscal Year 2011, PEO C3T successfully completed the transition to its new home at APG, providing uninterrupted, transparent support to deployed, deploying and returning forces. By Sept. 15, it successfully transferred more than 1,000 employees from outlying locations including Fort Monmouth, N.J. and Fort Belvoir, Va.

Although the integration facility was not fully operational until late in Fiscal Year 2011, PEO C3T has already notched successes there, including Project Manager Mission Command (PM MC)

Scenes of the new campus, which consolidates the C4ISR community into a more collaborative environment for synchronized support to the Soldier.

## APG

*Aberdeen Proving Ground has become an integration hub for tactical communications throughout the Army. Here, with our C4ISR partners, we are setting the stage for innovators of the next generation.*

***Brig. Gen. N. Lee S. Price, PEO for C3T***

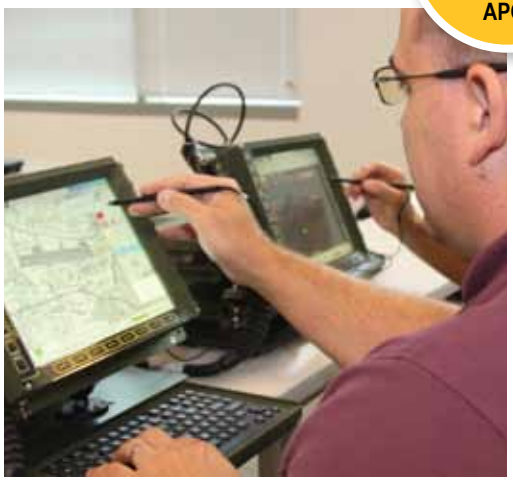
developmental "scrum" testing and on-the-move application hardware testing. The PM MC "scrum sessions" bring together users from the field with software developers to directly implement feedback.

As the facility's capability expands, APG will play host to crucial integration work for the Army's Capability Set 13/14 on both the transport layer and application layer, said Jennifer Zbozny, chief engineer for PEO C3T. The integration facility will enable closer collaboration with PEO C3T's partners at APG, such as PEO Integration and the Research, Development and Engineering Command's communications-electronics center, or CERDEC.

"Aberdeen has become a mecca, because you've got all of these different PEOs and the test community that has come together in one location," Zbozny said. "It makes this a very powerful place as far as being able to do integration."

With PEO C3T playing a greater role in building the Army network in support of the Network Integrated Evaluations (NIEs), the Team C4ISR facilities allow engineers to complete more integration activities before the equipment arrives for testing at White Sands Missile Range, N.M., and Fort Bliss, Texas. That lessens the burden on the test unit and the need for on-the-ground troubleshooting.

**1042 PEO C3T employees relocated to APG**



# PEO C3T SAYS GOODBYE TO PROJECT MANAGERS

**PM MISSION COMMAND** *formerly PM Battle Command*

*"I'm really proud of the people who have made Battle Command, I think, truly the best acquisition organization in the Army. It's a great job to have, and a tremendously hard job to walk away from."*

Outgoing: **COL David M. Moore**, project manager for Battle Command since 2007, retired from military service on July 8, 2011 following a 32-year Army career. While his missions changed throughout the years -- from deploying to the Middle East to helping the Army acquire Bradley Fighting Vehicles to promoting agile software development -- Moore relied on the same guiding principles and "boots on the ground" beliefs.

Moore said he took the most pride in his service with the 82nd Airborne Division, where together with his men he jumped into Panama and deployed to Operations Desert Shield and Desert Storm. After joining the Army's acquisition corps, Moore held several leadership positions, culminating with his appointment as Project Manager for Battle Command. In 2008-09 he deployed to Afghanistan, where his mission quickly changed from an "outsider" conducting an initial assessment of brigade tactical communications to a key resource for the 101st Airborne Division as it struggled to build the signal and information technology infrastructure needed to support thousands of additional troops. Moore was awarded the Bronze Star for his efforts. Moore's "boots on the ground" observations in Afghanistan also had a major impact on the creation of the Afghan Mission Network and the Battle Command Collapse Strategy.

*Incoming: **COL Jonas Vogelhut** assumed leadership of PM Mission Command on July 8, 2011. Vogelhut, a former PEO C3T Executive Officer and Assistant Program Manager for FBCB2, rejoins PEO C3T from PEO IEW&S.*

**PM MOBILE ELECTRIC POWER**

*"It's been an honor and a privilege to serve with the great acquisition professionals of the mobile electric power team. I wish COL Brian Cummings and the team only the best in the future as they continue the tradition of excellence in providing critical power and environmental control capabilities to our men and women in uniform."*

Outgoing: **Mr. Michael Padden**, project manager for Mobile Electric Power since 2007, began a new position at ASA (ALT) in May 2011. During a period when the war in Afghanistan strained power resources and made operational energy a major focus area for the DoD, Padden provided outstanding leadership to PM MEP as it advanced technologies for tactical and mobile power sources in support of the current and future force. In 2009, his team won a DoD David Packard Excellence in Acquisition Award for efforts including improved generator and environmental control programs and command post power distribution. These improvements resulted in a fielded annual cost avoidance of nearly $1 billion per year and savings of approximately 10,000 tanker loads of fuel per year. Padden also oversaw a surge in production of Tactical Quiet Generators by 150 percent in only a few months, at no cost to the government, which enabled the rapid fielding of more than 400 generators to Afghanistan to meet an urgent requirement.

*Incoming: **COL Brian P. Cummings** assumed leadership of PM MEP on Sept. 7, 2011. Cummings, a former Product Manager Ground Soldier System at PEO Soldier, comes to PEO C3T from Iraq, where he served as the Chief of Staff for the Deputy Commanding General for Advising and Training from June 2010 to June 2011.*

YEAR IN REVIEW

## OCTOBER 2010

The Advanced Field Artillery Tactical Data System and the Defense Readiness Reporting System-Army, assigned to Project Manager Battle Command, were selected as winners of the **2009 DOD "Top 5 Systems Engineering Program Awards"** recognizing acquisition program excellence in systems engineering.

The C-RAM Program Directorate was awarded the **2010 Army Acquisition Excellence Award** at the 2010 US Army Acquisition Corps (AAC) Annual Awards Ceremony in Alexandria, VA on 24 October 2010.

**The release of Single Interface to the Field (SIF) 2.0** is the next step in the evolution to improved field support, information management tools and capabilities to the Army community. The SIF Portal 2.0 brings a new presentation layer with an enhanced user interface and integrated data displays, as well as numerous additional capabilities. SIF falls under PM Mission Command.


**Senior Leaders Cut the Ribbon on Fort Bragg Regional Hub Node** "Today marks a milestone of continuing progress towards realizing the vision of LandWarNet," said BG LaWarren Patterson, 7th Signal Brigade Commander, during the ribbon cutting ceremony held on Oct. 7 in Ft. Bragg, N.C. "It's key, so this Regional Hub Node and the people who run it represent a significant leap ahead really in the capabilities that we have in the 18th Airborne Corps and Ft. Bragg.," said LTC Frank G. Helmick, Commanding General of the 18th Airborne Corps.

## PM WARFIGHTER INFORMATION NETWORK-TACTICAL

*"To me this is not a job that is about kit, it has always been about people, whether it's the people we are supporting in the organization or the people we are supporting downrange, and that is what I'm going to miss the most."*

Outgoing: **COL William "Chuck" Hoppe**, project manager for Warfighter Information Network-Tactical (PM WIN-T), relinquished the PM WIN-T charter on Aug. 4, 2011 and will now serve as the military deputy director for Communications-Electronics Research, Development, Engineering Center (CERDEC). As the Army's first PM for WIN-T, he led it from inception to its soon to be fielded second increment, which paves the way for increased network capability for the current and future force.

COL Hoppe was responsible for fielding the tactical network to today's Soldiers as well as developing the tactical network for the Army of the future. Hoppe said that if he had to highlight a single endeavor that taught him the most during his tenure as PM for WIN-T it would have to be his assignment to Kandahar as the J6 for U.S. Forces Afghanistan South from September 2009 to March 2010, for which he was awarded the Bronze Star. There he was instrumental in standing up the Afghan Mission Network – the coalition secret network that allows coalition members to operate on a common security enclave.

*Incoming: **COL Edward J. Swanson** assumed leadership of PM WIN-T in August. In his previous position as product manager for the Installation Information Infrastructure Modernization Program (I3MP) Continental United States (CONUS), he led the team installing and upgrading Army installation voice, data, and outside plant networks.*

## PM NETWORK SYSTEMS' INTEGRATION

*"All of our focus now is outfitting every brigade in the Army with these capabilities which will mature over time."*

Outgoing: From July 2009 to July 2011, **COL Kenneth G. Carrick** served as Project Manager (PM) for Network Systems' Integration. It is assigned to the PEO C3T. COL Carrick is currently serving as Deputy Director for Plans and Engineering in the Army's Research, Development, and Engineering Command.

COL Carrick's acquisition experience began with a staff tour in the PEO C3T at Fort Monmouth, New Jersey, serving in the Horizontal Technology Integration Office. During this tour he was the PEO project lead for the Rapid Force Projection Initiative Advanced Concept Technology Demonstration. He also served with Project Manager Force XXI Battle Command Brigade and Below as an assistant product manager and as product manager for software.

In 2004, Colonel Carrick was assigned to Fort Monmouth where he served as the Product Manager for Tactical Radios, Current Force in PEO C3T, managing a portfolio of over 10 radio systems. During his two-year tenure, his team developed, procured, and fielded nearly $3 billion worth of radio systems for today's Soldiers. In May, PM NSI was reconstituted as PdM Network Systems.

## NOVEMBER

**"Best of Visions" Award was accepted by Battle Command October 20 at the 34th Annual Global Conference on Product Innovation Management in Orlando, FL.** Faced with the ever-growing challenge of sharing information rapidly in complex environments, the United States Department of Defense's product development team turned to an innovative solution to upgrading productivity: the Agile lifecycle process.

PEO C3T is selected as a **2010 David Packard Excellence in Acquisition Award winner along with PEO IEWS for their efforts in support of the CENTRIXS - ISAF (CX-I) effort**. Only three teams were selected for the award across DoD and this was the only team from the Army selected.


**Change of Charter** for Product Director Crypto and Networking Initialization (PD C&NI) to Project Director Tactical Network Initialization (PD TNI). The new name reflects the consolidation of crypto responsibilities under Project Director Communications Security (PD COMSEC).

**Wireless Network After Next (WNaN) demo held on 9 Nov.** at the Maneuver Battle Lab testing facility at Fort Benning, Ga. During the demo, U.S Army Training and Doctrine Command Soldiers tested the self-healing tactical network's ability to adapt to changing circumstances to keep communications intact. The PEO C3T is the executive agent for the Army in its agreement with DARPA to evaluate WNaN.

**The military workforce can now share videos behind secure network firewalls with the debut of milTube from MilTech Solutions.** The new website meets the DoD's need for a dynamic way to share videos – including training, ceremonies and news clips – across installations worldwide.

# FIRST IMPRESSIONS WITH PRODUCT MANAGERS

**LTC ROBERT M. COLLINS**
*PdM, Warfighter Information Network-Tactical Increment 2/3, PM WIN-T*

**What surprised you about your first year as PdM?**
*The sheer number of changes underway in the Army and OSD in relation to the Acquisition process. We must continue to strive to remain current on emerging policies and directives in order to deliver capability in the most efficient and cost effective manner.*

**What was the biggest challenge you faced in the first year?**
*Proper program management almost requires a PhD in "Time management" skills. The numerous complexities of managing 2 ACAT1D program, while simultaneously supporting a major BRAC required focus on several fronts.*

**What was the biggest accomplishment/success you had in the first year?**
*Successfully negotiating a contract award for the WIN-T Inc 2 LRIP phase at a value of $2.4B. At the same time, we were able to incentivize for reliability and save the Government about $200M.*

**What did you learn during your first year that will be valuable going forward?**
*The most important thing we do on a daily basis is lead and take care of people - they are our most precious resource.*

**LTC MARK DANIELS**
*PdM, Joint Battle Command – Platforms, PM FBCB2*

**What surprised you about your first year as PdM?**
*The talent pool was much deeper than what I could have ever imagined. We have some very good engineers capable of innovation and, at the same time, running disciplined processes.*

**What was the biggest challenge you faced in the first year?**
*The workload in PEO C3T, from my perspective in FBCB2 and JBC-P, has been steadily increasing - new efforts to manage. We also endured and extended Continuing Resolution Authority (CRA) which affected JBC-P; the first 8 months of the FY were full of intense budget management drills. We had to find efficiencies at every corner, and if they didn't exist, the schedule slipped.*

**What was the biggest accomplishment/success you had in the first year?**
*Developing JBC-P from a new, small organization into a more mature operation that will eventually represent much of the effort in FBCB2. We're now capable of efficient, sustained operations.*

**What did you learn during your first year that will be valuable going forward?**
*Its all about the people. When they have purpose and direction, the team forms and processes mature. Then, once the routine becomes routine, there is ample ceiling for innovation.*

## DECEMBER

**BG N. Lee S. Price, PEO C3T and COL William C. Hoppe, PM WIN-T spoke at the 10th Annual Armed Forces Communications & Electronics Association Northern Virginia Chapter (AFCEA NOVA) Army IT Day.** The theme of the event was "Transforming the Army Enterprise to Support the Warfighter: Balancing Efficiency and Effectiveness in Uncertain Times."

**The Joint Staff J-6 granted an Interoperability and Supportability Certification**, dated 2 December 2010, for the Counter-Rocket, Artillery and Mortar (C-RAM) Forward Area Air Defense (FAAD) Command and Control (C2) ISP, v1.6, dated 01 November 2010 for Milestone C.

**SATCOM in a SNAP** Soldiers train on Secure Internet Protocol Router/ Non-secure Internet Protocol Router (SIPR/NIPR) Access Point (SNAP) terminals at Fort Dix, N.J. on 2 December.

**Warfighter Information Network - Tactical (WIN-T), Increment 2, was certified** for Milestone B approval

## JANUARY 2011

Product Manager, Tactical Battle Command (PdM TBC) of PM Battle Command is a first place winner of this year's Institute of Defense and Government Advancement's Network Centric Warfare Award in the category of **"Outstanding Government Program."**

**LTC MIKE FOSTER**
*PdM, Medium Power Sources, PM MEP*

**What surprised you about your first year as PdM?**
*The responsibility that came with the job. From the first day that you take the charter, your team will look to you for direction and you have to make decisions on aspects about the program, and you know exactly as much as you got during the left seat / right seat with the outgoing PdM.*

**What was the biggest challenge you faced in the first year?**
*At the end of the day, standing in left field by myself. Earning the trust of my subordinates without questioning my integrity or values to my family, job and the Army.*

**What was the biggest accomplishment/success you had in the first year?**
*Getting the team to realize that just because they have done it that way for many years, does not mean that way is the correct way of doing it.*

**What did you learn during your first year that will be valuable going forward?**
*Don't be afraid to take chances but before you take them, ensure that you have thoroughly thought through the second and third order effects.*

**LTC GREG COILE**
*PdM, SATCOM, PM WIM-T*

**What surprised you about your first year as PdM?**
*How fast it has gone by.*

**What was the biggest challenge you faced in the first year?**
*Continuing to accomplish all missions in support of deployed and deploying forces while executing the BRAC.*

**What was the biggest accomplishment/success you had in the first year?**
*Procured and fielded 745 Satellite Terminals to the tactical edge in order to extend Networked Mission Command in support of Operation Enduring Freedom, Operation New Dawn, Horn of Africa and US operations worldwide.*

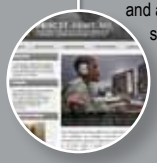
**What did you learn during your first year that will be valuable going forward?**
*I learned a great deal during the POM reviews and Weapon System Reviews last fall. Secondly, having to lead and manager a PMO with over 15 programs has taught me how to prioritize time and resources to synchronize multiple efforts to increase capability and efficiency.*

## FEBRUARY

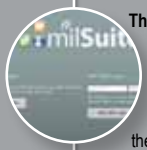
**The Army finalized and awarded the WIN-T Increment 2 Low Rate Initial Production (LRIP) contract,** allowing for continued production of the tactical communications network.

Efforts by Project Manager, Mobile Electric Power (PM MEP) to provide environmental control in support of mission success took a major step forward on 2 Feb., when a **Full Rate Production Ceremony for the 60k British Thermal Units per Hour (BTUH) Improved Environmental Control Unit (IECU)** was held in Florence, Ky.

**Mr. Al Abejon, Director, Blue Force Tracking-Aviation, PM Force XXI Battle Command Brigade and Below (FBCB2),** accepts the Silver Order of Saint Michael Medal at Army Aviation Association of America convention February 9, 2011.



**PEO C3T launched its new public website on 14 February,** with enhancements that include improved content, streaming media and a high-powered search engine.

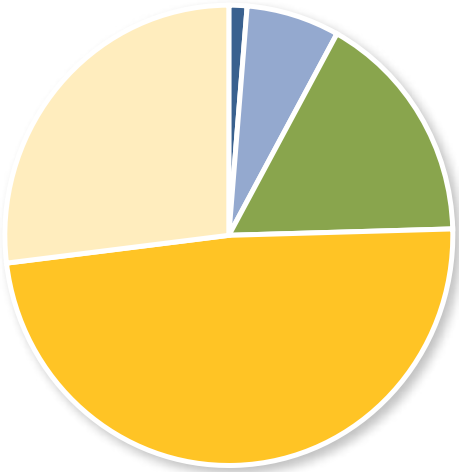



**The milSuite Enterprise Edition, a**n effort targeted at expanding the milSuite user community to the broader DoD by shifting to a CAC-based authentication model, successfully launched over the Presidents' Day weekend.

**LTC Eric S. Betts, deputy project director, PD COMSEC, was presented the Meritorious Service Medal for Service** while assigned as the Science and Technology Advisor for the XVIII Airborne Corps and U.S. Army Special Operations Command. Betts made lasting materiel contributions to the Airborne Soldier and in the modernization of the command at Fort Bragg, N.C.

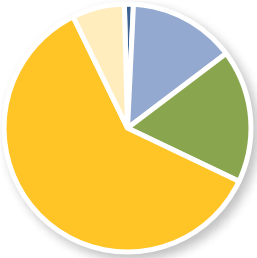
# FINANCIAL SUMMARY

## PEO C3T FY11 FUNDING ($ in K)*




**TOTAL: $2,615,730**

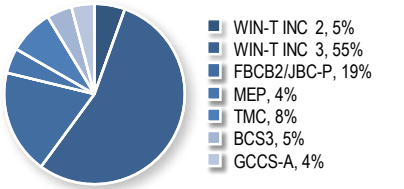
## PROJECTED FY12 FUNDING ($ in K)



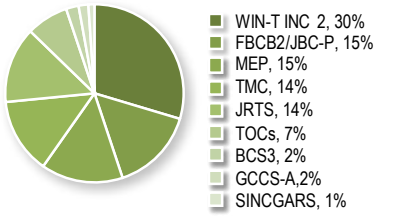

**TOTAL: $3,920,636**

*Does not include funding for transitioned programs.
Funding as of August 2011.

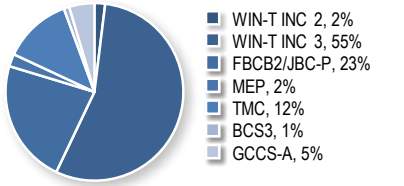
### TOP FY11 RDTE PROGRAM FUND



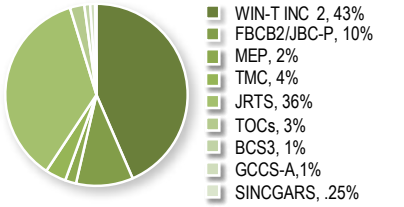

### TOP FY11 OPA PROGRAM FUNDI




### TOP FY12 RDTE PROGRAM FUND




### TOP FY12 OPA PROGRAM FUND




### MARCH

**82nd Airborne used comms equipment provided by PEO C3T and JPEO JTRS in an exercise observed by Gen. Peter Chiarelli.** A cutting-edge combination of smartphones plugged into tactical radios empowered small Army units during this field exercise.

BG N. Lee S. Price participated in the female General Officer's panel with members of the Air Force, Coast Guard, Navy and Marine Corps during the Sea Service Leadership Association's **2011 Joint Women's Leadership Symposium** in San Diego, California on 15 March.

### APRIL

**Program Director Counter-Rockets, Artillery and Mortar (PD C-RAM) transitioned from PEO C3T to PEO Missiles and Space** on 10 April. Although PD C-RAM has been reassigned to another office, the capabilities fostered under the leadership of PEO C3T will continue to protect and support the Soldier well into the future.


**Fourth Annual Power User Conference held by Project Manager, Mobile Electric Power (PM MEP),** where Soldiers, Sailors, Airmen and Marines who deal hands-on with battlefield power participated in small-group discussion sessions, attended system demonstrations and provided feedback on current and next-generation equipment.

# KEY PROGRAM METRICS

## KEY ARMY ACQUISITION PROGRAMS - 43

| PROGRAMS: | |
|---|---|
| ACAT I | 6 |
| ACAT II | 8 |
| ACAT III | 20 |
| PRE-MDAP / PRE-MAIS /TBD | 9 |

* Some systems in multiple Phases

| PHASES:* | |
|---|---|
| PREMAP/TBD | 9 |
| Concept Refinement | 0 |
| EMD | 4 |
| Production & Deployment | 30 |

As of July 2011

### MILESTONE DECISIONS:

| | | | |
|---|---|---|---|
| PM WIN-T | INC 2 | MS-C | 2QFY10 |
| PM MEP | ICCU | MS-C FRP | 3QFY10 |
| PM BC | JADOCS | MS-C | 4QFY10 |
| PM WIN-T | INC 1 | FRP | 1QFY11 |
| PM MEP | LG Adv Mobile Power | MS-B | 2QFY11 |
| PM FBCB2 | JBC-P | MS-C LRIP | 3QFY12 |
| PM MEP | Adv Med Mobile Pwr | MS-C FRP | 3QFY11 |
| PM WIN-T | Inc 2 | FRP | 4QFY12 |
| PM MC | AFATDS Inc 2 | MS-B | 2012 |
| PM MC | JADOCS | MS-C | 2012 |
| PD COMSEC | Next Gen Load Dev | MS-C | 2012 |
| P\PM WIN-T | Inc 3 | MS-C | 2015 |
| PM MEP | Sm Tactical Elec Pwr | MS-B | 2015 |
| PM MEP | LAMPS | MS-C | 2015 |

**In April, PM WIN-T completed the fielding of the next generation Secure, Mobile, Anti-Jam, Reliable, Tactical-Terminals (SMART-T) to its first tactical units,** an upgrade that will greatly increase satellite throughput on the battlefield.

**LTC Michael L. Rodriguez, Readiness Management Division military deputy for PEO C3T,** was presented with several honors from BG N. Lee S. Price, PEO for C3T, during his retirement ceremony on 25 April at Aberdeen Proving Ground, Md.

### MAY

**PEO C3T employees representing MilTech Solutions, PM MEP, and PM WIN-T were among those hosting demos for visitors on Armed Forces Day at APG.**


**Change of Charter** LTC Troy Crosby takes his Charter for PdM Network Systems. On 25 May 2011, PD Tactical Radio Communications Systems under FBCB2 was moved under LTC Crosby.

### JUNE

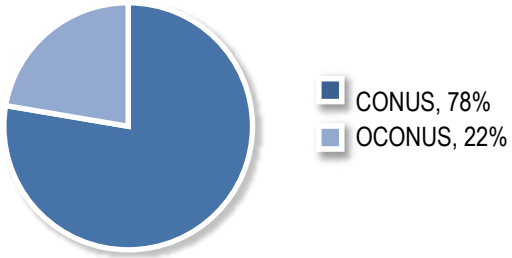
**Network Integration Evaluation (NIE 11.2)** was held at White Sands, Missile Range, N.M. and Fort Bliss, Tx. with the 2nd Brigade Combat Team, 1st Armored Division. The Soldiers evaluate key technologies that connect units to one another and higher headquarters.

# PERSONNEL SUMMARY


## WORLDWIDE PERSONNEL LOCATIONS (OCONUS):

- Afghanistan
- Bahrain
- Germany
- Guam
- Horn of Africa
- Japan
- Iraq
- Korea
- Kuwait
- Qatar

## PERCENT DEPLOYED




**BG N. Lee S. Price, PEO C3T, led students and faculty from the Eller College of Management, University of Arizona, on a personalized tour of the Pentagon on June 13.** These students were part of a program called "Eller America," in which they visited for-profit, not-for-profit and government sectors from Washington, DC to New York, NY during a 10-day journey across America. Price graduated from Eller with a master's degree in Management Information Systems.

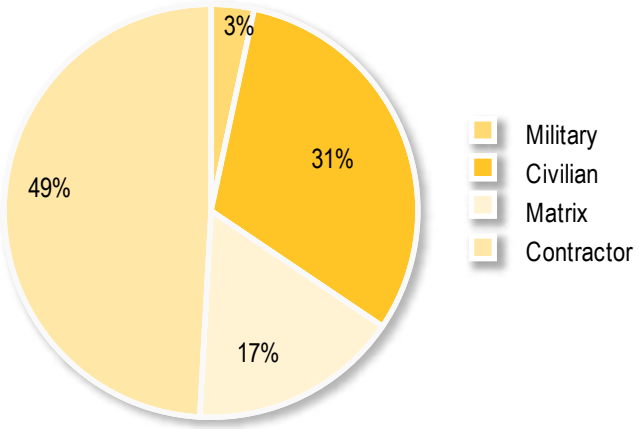
**Change of Charter, PdM Tactical Battle Command**
LTC Richard Hornstein passed his charter to LTC Thomas Bentzel during a ceremony on June 23.

### JULY

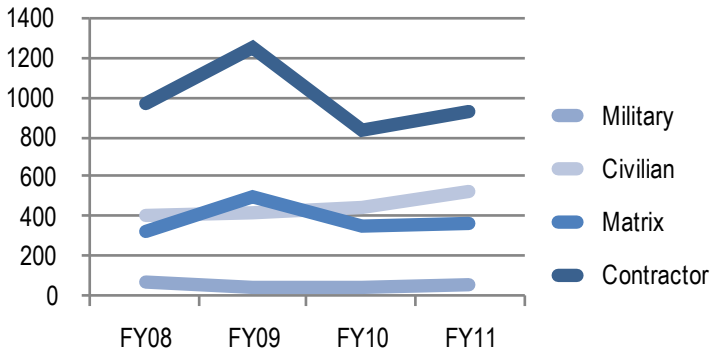
**Change of Charter for PM Battle Command**
COL David Moore formally passed leadership of his organization to COL Jonas Vogelhut. The event also marked the transition of PM Battle Command to PM Mission Command, a name change that reflects the Army's most recent doctrine, and the centrality of the commander.

**COL David Moore's** 32-year military career came to a close on July 8, as he retired from the service. Moore's contributions were recognized during a retirement ceremony at Aberdeen Proving Ground, Md., where he received several awards and tributes including the Presidential Certificate of Appreciation for Service in the Armed Forces of the United States.

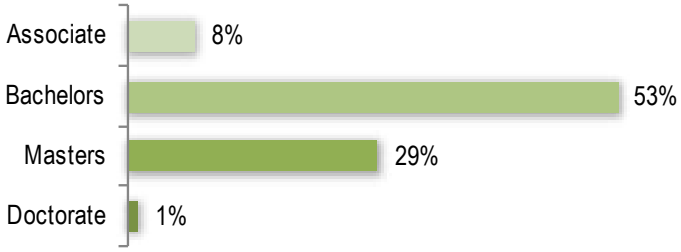
## PERSONNEL BREAKDOWN




## YEARLY PERSONNEL BREAKDOWN

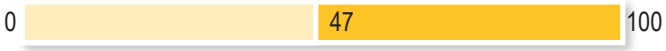



## EDUCATION BREAKDOWN




*Civilian Personnel only

## AVERAGE AGE OF WORKFORCE




## KEY SKILL SETS:

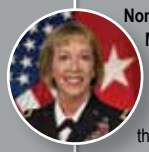
- Program Management
- Engineering
- Information Technology
- Security
- Logistics
- Contracting / Procurement
- Accounting and Budget
- Administration and Clerical
- Computer Science

**Change of Charter for PdM CPS&I**
LTC Terry Wilson relinquished the Product Manager Command Post Systems and Integration (CPS&I) charter to the incoming product manager, LTC Carl J. Hollister, during a July 15 ceremony at Redstone Arsenal, Ala.

**Change of Charter for PdM WIN-T Increment 1**
Newly promoted COL Raymond Compton relinquished the PdM WIN-T Increment 1 charter to incoming LTC Jason K. Shepard during a ceremony on July 29 at the Myer Auditorium at Aberdeen Proving Ground, Md.

**BG N. Lee S. Price, PEO C3T, hosted the promotion ceremony to the rank of colonel for COL Raymond K. Compton**, outgoing product manager for Warfighter Information Network-Tactical (PdM WIN-T) Increment 1. The promotion ceremony was held on July 29 at the Myer Auditorium at Aberdeen Proving Ground, Md.

**The Advanced Medium Mobile Power Sources (AMMPS) program receives Full Rate Production** decision by BG N. Lee S. Price, PEO C3T coupled with a Full Materiel Release decision by MG Randolph P. Strong, Commanding General of the Communications-Electronics Command on July 20. The first units are expected to ship to Afghanistan later this fall.



**Nominated To Become Major General**
Secretary of Defense Leon Panetta announced July 27 that President Barack Obama nominated BG N. Lee S. Price for promotion to Major General. She will receive the promotion upon approval by the Senate.

# BASE REALIGNMENT AND CLOSURE (BRAC)

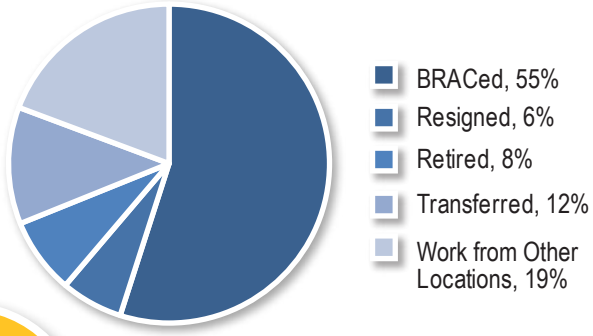
PEO C3T met its mission of transformation to APG and close-out of Fort Monmouth, N.J., by September 15. Of our more than 1,800 employees, we have 1,042 personnel on the ground at APG. We have shipped 1,489 pieces of equipment to APG and turned over 2,585 pieces of equipment to property disposal.

BRAC 2005 relocated five C4ISR organizations from Fort Monmouth and other sites to Aberdeen Proving Ground, Md. APG has become the third largest employer in the state of Maryland behind the University of Maryland and Fort Meade.

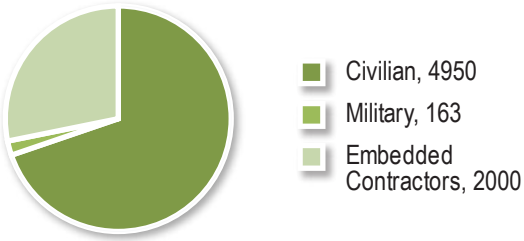
The relocation to APG is not business as usual. The C4ISR Center of Excellence has been reorganized in a revolutionary mission-related domain structure that will greatly improve collaboration and efficiency. These domain structures are built around missions versus organizations, so the concept has placed personnel working on similar projects in the same locations. Research and development, and contracting communities will reside in the same space as PEO C3T engineers.

**Out of the 2005 BRAC 182 commission recommendations, 113 affected the Army**

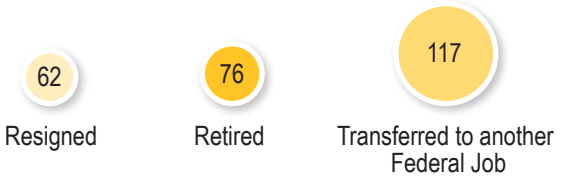
## PEO C3T EMPLOYEE BREAKDOWN OF BRAC




## C4ISR BRAC NUMBERS




## PEO C3T EMPLOYEES THAT LEFT SINCE 2007

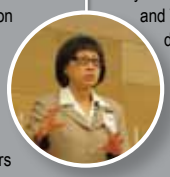



*Civilian Personnel only

## AUGUST

**Change of Charter of PM WIN-T**
COL William C. Hoppe relinquished the PM WIN-T charter to COL Edward Swanson during a ceremony held on 4 August. During the ceremony, which was hosted by Brig. Gen. N. Lee S. Price, PEO for C3T, Hoppe received the Legion of Merit Award for his exceptional service and superior performance during his tenure as project manager for WIN-T.

**Last Fort Monmouth Retirement Ceremony** The organizations of Team C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) bid a collective farewell to Fort Monmouth on 5 August as the fort's last retirees were honored in two ceremonies. More than 100 members who served the Army for more than a combined 3,000 years retired that day.

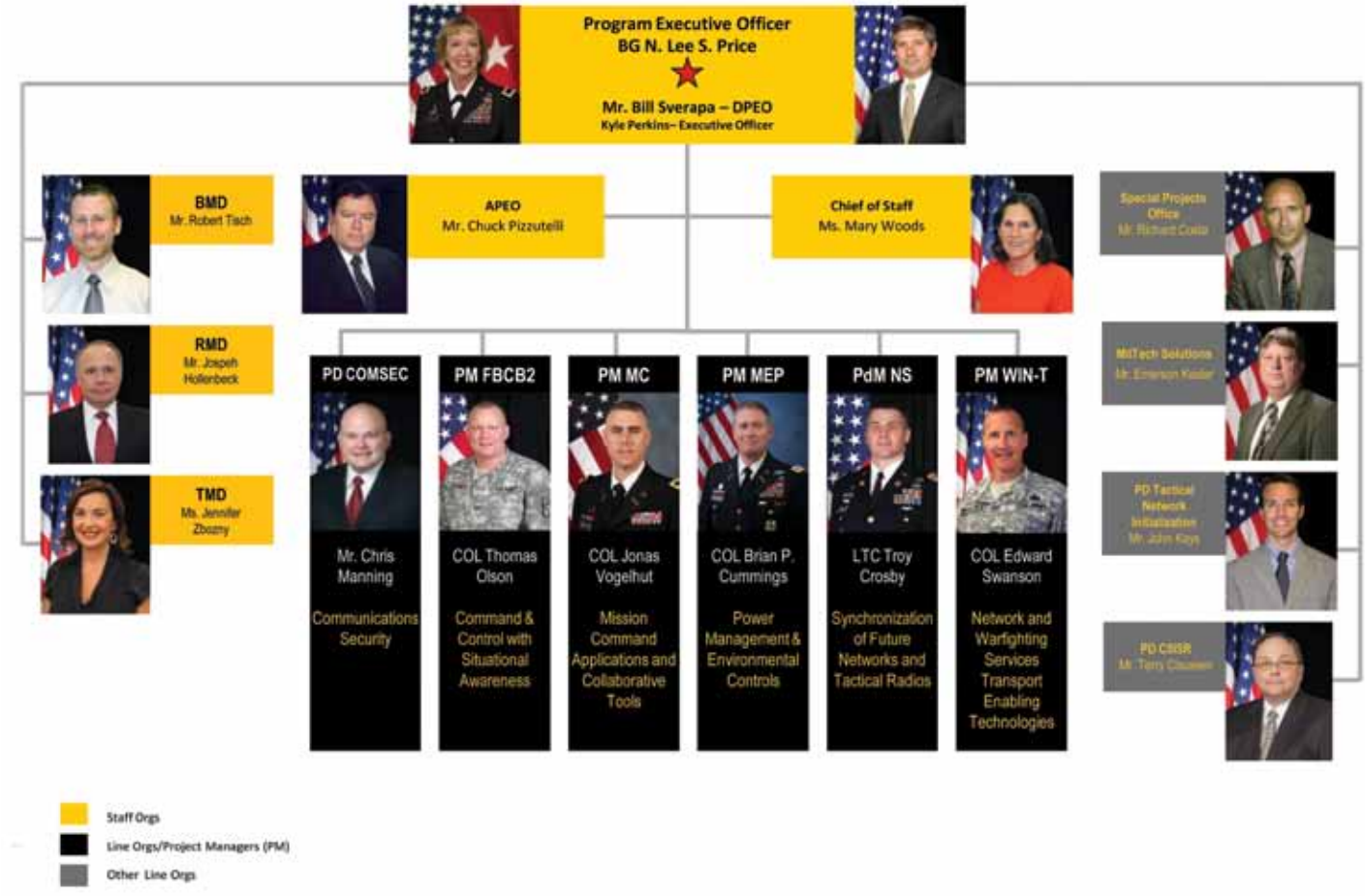


**Town Hall Meeting**
With praise for an Army acquisition workforce "on the front lines" of supporting Soldiers, the service's top acquisition official outlined key steps the Army is taking in its drive for efficiencies. "We're facing fiscal realities," said Heidi Shyu, acting assistant secretary of the Army for Acquisition, Logistics and Technology, during a town hall meeting Aug. 19 at Aberdeen Proving Ground. "We're all sharing the pain."

**Honorable Mention for Outstanding Information Technology Achievement in Government for milSuite,**
a set of Web 2.0 capabilities developed by MilTech Solutions Office. milSuite was chosen this year as one of 10 Government Computer News (GCN) honorable mention projects, which were selected from over 200 nominations submitted to GCN.

**PEO C3T was presented with an Army Knowledge Management Award at the LandWarNet conference in Tampa, FL.**
The organization was recognized for its overall knowledge management maturity, especially its successful efforts to capture and preserve institutional knowledge during its recent move to Aberdeen Proving Ground, Md. during the Base Realignment and Closure (BRAC) transition.

# PEO C3T ORGANIZATION




## SEPTEMBER

**PM WIN-T co-sponsored the fourth annual Army Commercial Satellite Communications (SATCOM) Users' Workshop** at the Tampa Convention Center, Tampa, Fla. on Aug. 22. The underlying goal of the workshop was to conduct candid discussions between the military and industry to produce practical results and encourage future partnerships to tackle current and future capability gaps.

Participation in this year's workshop increased to 230 attendees, up from 141 last year.

**Army awards $3.7 billion contract for Common Hardware Systems-4 (CHS-4) on Aug. 25.**

**Change of Charter for PM MEP**

Mr. Michael Padden relinquished the PM MEP charter to Col. Brian P. Cummings during a ceremony held on 7 Sept. at Fort Belvoir, Va. During the ceremony, which was hosted by Brig. Gen. N. Lee S. Price, PEO for C3T, Padden received the Decoration for Exceptional Civilian Service for his exceptional service and superior performance during his tenure as project manager for MEP.

**With ceremonies at Fort Monmouth, N.J. and Aberdeen Proving Ground, Md. on Sept. 13 and Sept. 15,** PEO C3T and its partners in the the Army Team C4ISR community marked the conclusion of the Base Realignment and Closure (BRAC) process, the closure of Ft. Monmouth and the beginning of a new era of collaboration and integration at APG.

**C4ISR Center of Excellence Dedication Ceremony**

The C4ISR Center of Excellence community holds a Campus Dedication Ceremony on 15 September to formally recognize and dedicate the campus. The ceremony consisted of a ribbon cutting, equipment exhibits, the reconstitution of the Fort Monmouth Avenue of Memories at the Myer Auditorium, and the dedication of the building memorializations.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